NETCOMM GATEWAY SERIES

# ADSL2+/3G Wireless N300 4-Port Modem Router


USER GUIDE

# Preface

This manual provides information related to the installation, operation, and application of this device. The individual reading this manual is presumed to have a basic understanding of telecommunications terminology and concepts.

If you find the product to be broken or malfunctioning, please contact technical support for immediate service by email at technicalsupport@netcomm.com.au

For product update, new product release, manual revision, or software upgrades, please visit our website at http://www.Netcomm.com.au

## Important Safety Instructions

With reference to unpacking, installation, use and maintenance of your electronic device, the following basic guidelines are recommended:

- Do not use or install this product near water, to avoid fire or shock hazard. For example, near a bathtub, kitchen sink or laundry tub, or near a swimming pool. Also, do not expose the equipment to rain or damp areas (e.g. a wet basement).
- Do not connect the power supply cord on elevated surfaces. Allow it to lie freely. There should be no obstructions in its path and no heavy items should be placed on the cord. In addition, do not walk on, step on or mistreat the cord.
- Use only the power cord and adapter that are shipped with this device.
- To safeguard the equipment against overheating, make sure that all openings in the unit that offer exposure to air are not blocked.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightening. Also, do not use the telephone to report a gas leak in the vicinity of the leak.
- Never install telephone wiring during stormy weather conditions.

**WARNING**

- Disconnect the power line from the device before servicing.



## Save Our Environment

When this equipment has reached the end of its useful life, it must be taken to a recycling centre and processed separate from domestic waste.

The cardboard box, the plastic contained in the packaging, and the parts that make up this router can be recycled in accordance with regionally established regulations. Never dispose of this electronic equipment along with your household waste. You may be subject to penalties or sanctions under the law. Instead, ask for disposal instructions from your municipal government.

Please be responsible and protect our environment.

# Table of Contents

# INTRODUCTION

# Introduction

## Your 3G15Wn – ADSL2+/3G Wireless N300 4-Port Modem Router

Congratulations on your purchase of a NetComm 3G15Wn – ADSL2+/3G Wireless N300 4-Port Modem Router. This product is a high-performance ADSL2+ Modem Router combined with a 3G router that provides high-speed wireless N networking and Internet connectivity for your home, office or public space. The NetComm 3G15Wn gives you the option to plug directly into an ADSL service to deliver Internet to users or connect via 3G with its support for an external 3G USB Modem. The choice is yours. Both methods will allow you to share your Internet connection amongst multiple users with either the 4 LAN ports for wired connections or via high-speed Wireless N.

The 3G15Wn also allows for a 3G Mobile Broadband connection provided by a 3G USB modem to act as a backup Internet connection to your fixed line service, providing automatic Internet failover to 3G in the event that the ADSL service fails. Should you have access to both connection methods, the 3G15Wn will ensure you are “always on” which is vital to some individuals and business that perform Internet critical operations.

The USB port not only has the capability to support an external 3G USB Modem, but it is also able to be used for the purpose of print and mass storage server. By simply plugging in a USB printer or a USB hard drive to the router, the functionality of these products will be able to be shared with everyone connected to the 3G15Wn.

The 3G15Wn features the latest standards of wireless security, with wireless security enabled by default on each router. An advanced firewall and VPN pass-through functionality allows for maximum security and caters for the encrypted Point-to-Point communications from connected computers through the 3G15Wn to a VPN Server.

The Port Forwarding and UPnP functionality provided by the 3G15Wn make it easier for today’s Internet users to setup and configure the various Network Port Rules needed by Internet applications such as On-Line Gaming, Peer-To-Peer file sharing and Instant Messaging services

## Package contents

Your 3G15Wn contains the following items:

- 3G15Wn – ADSL2+/3G Wireless N300 4-Port Modem Router
- 12VDC, 1.5A Power Supply
- RJ-11 ADSL Line connection cable
- RJ-45 Ethernet cable
- Removable Antenna
- User Guide (on CD)
- Printed Quick Start Guide

## Key features

- Fully featured ADSL2+ Modem Router
- USB port for alternative connection to the Internet via a 3G USB Modem
- Supports auto Internet failover from ADSL to 3G
- Wireless N access point – high speed wireless up to 300Mbps
- 2 Transmit and 2 Receive antennas
- 4 LAN ports for multiple wired connections
- Browser based interface for configuration and management: OS independent and easy to use
- Full wireless security - WEP, WPA, WPA2

# PLACEMENT

# Placement

## Placement of your 3G15Wn

**When Connecting With 3G**

Just like your mobile phone, a 3G USB Modem's location will affect its signal strength to the 3G Mobile Base Station (Cell Tower). The data speed achievable from a 3G USB modem is relative to this signal strength, which is affected by many environmental factors. Please keep in mind that the 3G USB Modem will need adequate signal strength in order to provide Internet connectivity whilst choosing a location to place your 3G15Wn – ADSL2+/3G Wireless N300 4-Port Modem Router.

Similarly to the 3G USB Modem, the wireless connection between the Router and your Wi-Fi devices will be stronger the closer your connected devices are to your Router. Your wireless connection and performance will degrade as the distance between your Router and connected devices increases. This may or may not be directly noticeable, and is greatly affected by the individual installation environment.

If you have concerns about your network's performance that might be related to range or obstruction factors, try moving the computer to a position between three to five meters from the Router in order to see if distance is the problem. If difficulties persist even at close range, please contact NetComm Technical Support.

Note: While some of the items listed below can affect network performance, they will not prohibit your wireless network from functioning; if you are concerned that your network is not operating at its maximum effectiveness, this checklist may help.

## Router placement

Place your Router as close as possible to the centre of your wireless network devices. To achieve the best wireless network coverage for your "wireless clients" (i.e., computers with built in or USB Wireless Adapters, Laptops with Built-in Wireless, Wireless PDA / iPhone, etc):

- Ensure that your Router's antennas are parallel to each other, and are positioned vertically (toward the ceiling). If your Router itself is positioned vertically, point the antennas in an upward direction as much as possible.
- In multi-storey homes, place the Router on a floor that is as close to the centre of the home as possible. This may mean placing the Router on an upper floor.
- Try not to place the Router near a cordless telephone that operates at the same radio frequency as the 3G15Wn (2.4GHz).

## Avoid obstacles and interference

Avoid placing your Router near devices that may emit radio "noise," such as microwave ovens. Dense objects that can inhibit wireless communication include:

- Refrigerators
- Washers and/or dryers
- Metal cabinets
- Large aquariums
- Metallic-based, UV-tinted windows

If your wireless signal seems weak in some spots, make sure that objects such as these are not blocking the signal's path (between your devices and Router).

## Cordless phones

If the performance of your wireless network is impaired after considering the above issues, and you have a cordless phone:

- Try moving cordless phones away from your Router and your wireless-enabled computers.
- Unplug and remove the battery from any cordless phone that operates on the 2.4GHz band (check manufacturer's information). If this fixes the problem, your phone may be interfering with the Wi-Fi Router.
- If your phone supports channel selection, change the channel on the phone to the farthest channel from your wireless network. For example, change the phone to channel 1 and move your Router to channel 11. See your phones user manual for detailed instructions.
- If necessary, consider switching to a 900MHz or 5GHz cordless phone.

# Choose the “quietest” channel for your wireless network

In locations where homes or offices are close together, such as apartment buildings or office complexes, there may be wireless networks nearby that can conflict with your wireless network.

Use the Site Survey capabilities found in the Wireless Utility of your wireless adapter to locate any other wireless networks that are available (see your wireless adapter’s user manual), and switch your Router and computers to a channel as far away from other networks as possible.

- Experiment with more than one of the available channels, in order to find the clearest connection and avoid interference from neighbouring cordless phones or other wireless devices.
- For NetComm wireless networking products, use the detailed Site Survey and wireless channel information included with your wireless network card. See your network card’s user guide for more information.

These guidelines should allow you to cover the maximum possible area with your Router. Should you need to cover an even wider area, you should consider looking at building a hybrid network by combining your wireless network with a HomePlug Network. See the NetComm website for more details on HomePlug products

# Product Layout

# Product Layout

## Getting to know your 3G15Wn

It is recommended that you take a moment to acquaint yourself with the indicator lights, ports and default settings of the 3G15Wn prior to commencing with installation.


| LED | Colour | Mode | Function |
|---|---|---|---|
| **Power** | Green | On | The router is powered on |
| | | Off | The router is not powered |
| **LAN 1-4** | Green | On | Ethernet link is established |
| | | Off | There is no Ethernet link established |
| | | Blinking | Data transmitting/receiving over Ethernet |
| **Wi-Fi** | Green | On | Wireless module is ready |
| | | Off | Wireless Module is not installed |
| | | Blinking | Data transmitting/receiving over Wi-Fi |
| **ADSL** | Green | On | The ADSL link is established |
| | | Off | The is no ADSL link established |
| | | Blinking | The ADSL line is training if it is blinking rapidly, The ADSL line is not connected if it is blinking slowly. |
| **Internet** | Red | On | Device attempted to obtain an IP address and failed (no DHCP response, no PPPoE response, PPPoE authentication failed, no IP address from IPCP etc.) For bridged mode, this LED remains off. If the IP or PPPoE session is dropped due to an idle timeout, the LED will remain green if an ADSL connection is still present. If the session is dropped for any other reason, the LED is turned off. The LED will turn red when it attempts to reconnect and DHCP or PPPoE fails |
| | | Off | Modem is in bridged mode or ADSL connection is not present |
| | Green | Blinking | IP connected and data is passing through the device (either direction) |
| **USB** | Green | On | A USB device is plugged into the USB port |
| | | Off | There is no USB device plugged into the USB port |

| Port Name | Function |
|---|---|
| **Power** | Connect the supplied power adapter |
| **On/Off** | Push to turn the 3G15Wn on and off |
| **USB** | Connect your external 3G USB Modem for a 3G connection or USB Storage/USB Printer |
| **Reset** | Reset button. Depress for 10 seconds to return your 3G15Wn to factory default settings |
| **LAN x 4** | 4 x 10/100 Ethernet switch to connect wired devices |
| **DSL** | Telephone jack (RJ-11) to connect to your telephone wall socket (ADSL Line) |
| **Wi-Fi** | Wi-Fi antenna for distributing wireless Internet signal |


# Minimum system requirements

Different aspects of the 3G15Wn have different requirements, so let's look at them in turn. We'll start with your computer, which ought to match the following requirements if you are to enjoy the benefits of a high-speed ADSL connection and use of 3G and Wireless Networking.

### PC Requirements:

- Any computer running Windows 98/2000/Me/XP/Vista/7 or Macintosh OSX
- Ethernet or Wireless Network card
- CD-ROM drive
- Web browser e.g.
  - Internet Explorer 5.1 (or better)
  - Netscape Navigator
  - Mozilla FireFox 1.0.4 (or better)

### ADSL Requirement:

- ADSL broadband connection to an ISP (Internet Service Provider)
- ADSL In-line Splitter/Filter (Please refer to "Do I need a micro filter?" for more information)

Note: Connection at ADSL2 or 2+ rates depends on the service offered by your ISP; the device will operate at standard ADSL rates in the absence of the 2 or 2+ service. Consult your ISP for details.

### 3G Requirement:

- Compatible 3G USB Modem with Active SIM/Data Service if you want to use 3G Broadband service.

Note: Subject to terms and conditions from your 3G Mobile Broadband Service Provider.

### Wireless Computer/Device Requirements

- Computer/device with a working 802.11b, 802.11g or 802.11n wireless adapter.

# Do I need a micro filter?

Micro filters are used to prevent interference between phones and fax machines, and your ADSL service. If your ADSL-enabled phone line is being used with any equipment other than your ADSL Modem then you will need to use one Micro filter for each phone device in use. Telephones and/or facsimiles in other rooms that are using the same line will also require Microfilters. A suitable Microfilter can be purchased from NetComm or your Service Provider, if required.

# Default settings

**LAN (Management)**

| | |
|---|---|
| **Static IP Address:** | 192.168.1.1 |
| **Subnet Mask:** | 255.255.255.0 |
| **Default Gateway:** | 192.168.1.1 |

**WAN (Internet)**

| | |
|---|---|
| **WAN mode:** | DHCP |

**Wireless**

| | |
|---|---|
| **SSID:** | NetComm Wireless |
| **Channel:** | auto |
| **Security:** | WEP, 64bit |
| **WEP Key:** | a1b2c3d4e5 |

**Interface Access**

| | |
|---|---|
| **Username:** | admin |
| **Password:** | admin |

# Restore Factory Default Settings

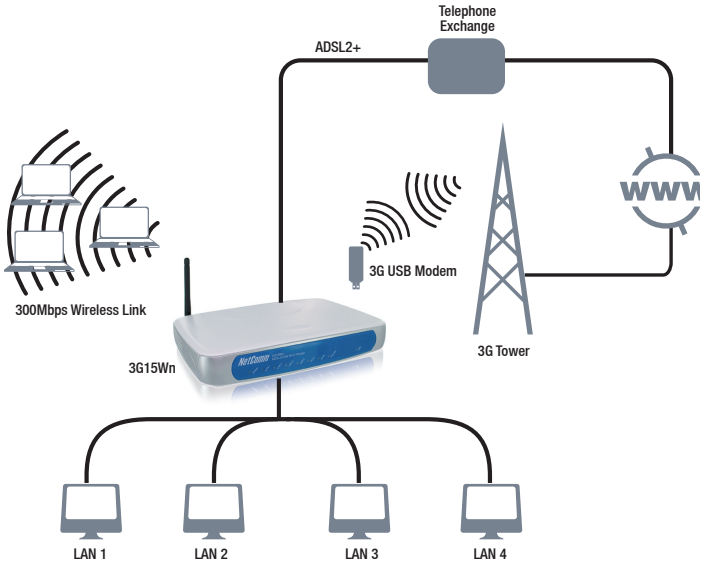
Restoring factory defaults will reset the 3G15Wn to its factory default configuration. Occasions may present themselves where you need to restore the factory defaults on your 3G15Wn such as:

- You have lost your username and password and are unable to login to your 3G15Wn's web configuration page;
- You have purchased your 3G15Wn from someone else and need to reconfigure the device to work with your ISP;
- You are asked to perform a factory reset by NetComm Support staff

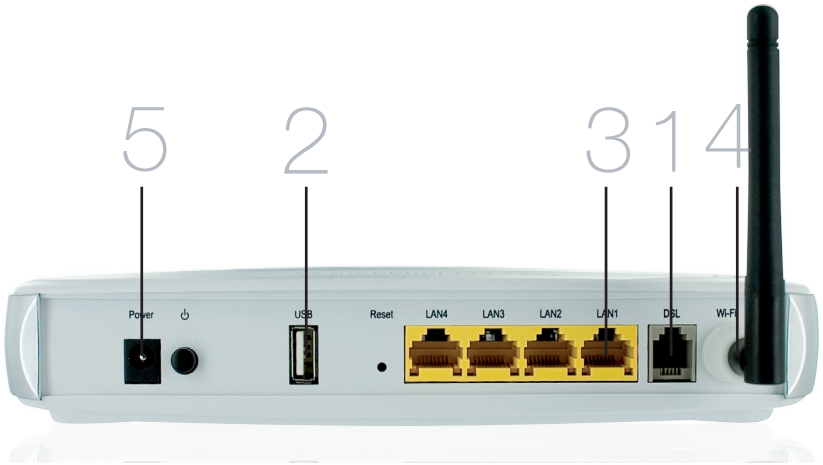
In order to restore your 3G15Wn to its factory default settings, please follow these steps:

- Ensure that your 3G15Wn is powered on (for at least 10 seconds);
- Use a paper clip or a pencil tip to depress the reset button for ten seconds and release. At this point, the reset is in progress. Do not power off the unit at this point;
- When indicator lights return to steady green, reset is complete. The default settings are now restored. The entire process takes about 45 seconds to complete;
- Once you have reset your 3G15Wn to its default settings you will be able to access the device's configuration web interface using http://192.168.1.1 with username 'admin' and password 'admin';

# Connecting the 3G15Wn



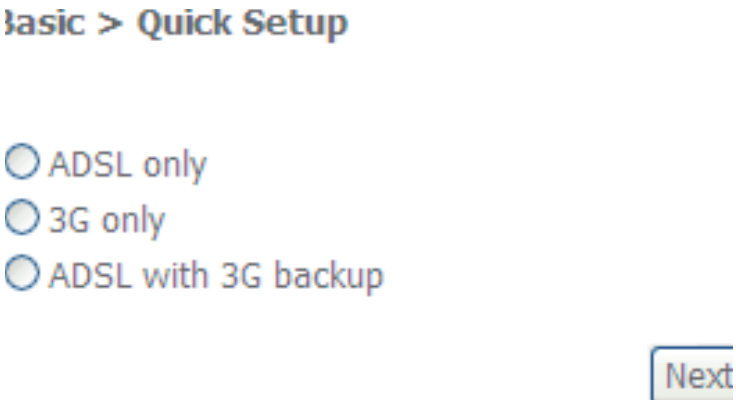
# Quick Setup



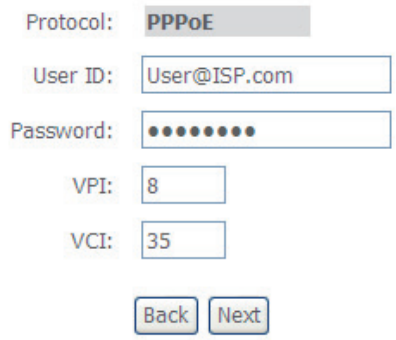

1. Connect the supplied RJ-11 cable to the **DSL** port on the back of your router to the phone port that supplies your ADSL.
2. And/or, attach a compatible 3G USB modem into the **USB** port on the back of the router
3. Connect the supplied RJ-45 Ethernet cable from one of the **LAN** ports on the back of the router to your computer
4. Screw the supplied detachable antenna to the **Wi-Fi** connector on the back of the router
5. Connect the supplied power adapter to your router and press the on/off button to power the router on.

## Login to the web interface

- Open a web browser (Internet Explorer, Firefox, and Safari) and type 192.168.1.1 into the address bar.
- At the login screen type admin into both the username and password fields. Then click submit. This will take you directly to the Quick Setup page



## Connecting With ADSL




1. Select the **ADSL only** box and click **Next**
2. Enter the **user ID/Password** on this screen as supplied by your ISP
3. Click on **Next** to use these settings
4. You will then be asked to enter additional setup details.

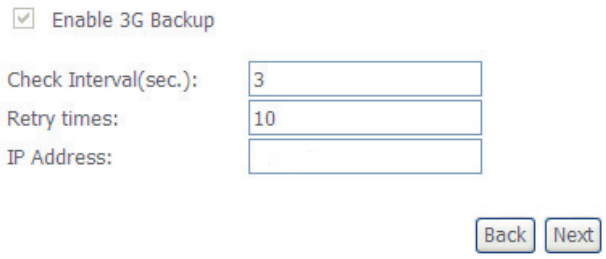
## Connecting with 3G


1. Select the **3G only** box and click **Next**
2. Your modem will auto detect if it is compatible: This information can be seen at the top of the page
3. From the drop down **Profile** box select your 3G ISP, which will auto-fill your APN setting
4. Enter the **username/password** supplied by your 3G ISP.

Note: Not all 3G users will have a username/password. Only enter this information if you have been supplied one by your 3G ISP

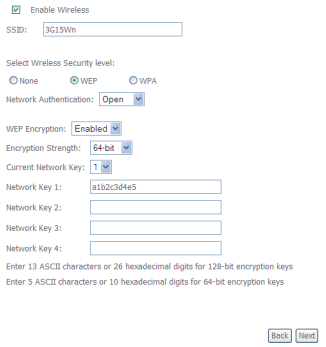
5. Click on **Next** to use these settings
6. You will then be asked to enter additional setup details. This will be explained from **Wireless Quick Setup**

## Configuring 3G backup



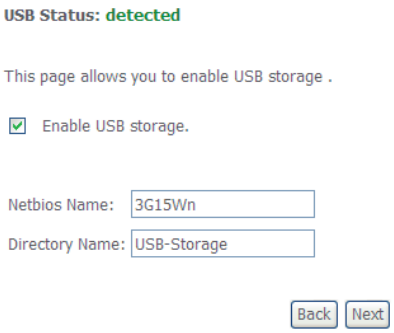

1. Select the **ADSL with 3G backup** box and click **Next**
2. Follow the instructions listed above for both ADSL and 3G to set up both connections
3. Check the **Enable 3G Backup** box and enter your desired backup settings
4. Click on **Next** to use these settings
5. You will then be asked to enter additional setup details. This will be explained from **Wireless Quick Setup**

## Wireless Quick Setup




1. All the default settigns already appear on the wireless quick setup page
2. You can enable/disable your wireless
3. You can change your wireless SSID. If you do, be sure to remember the new name or write it down so you know what network to connect to
4. You can also select the level of wireless security and change the wireless password
5. Once you have completed entering your wireless settings click **Next**

## USB Storage

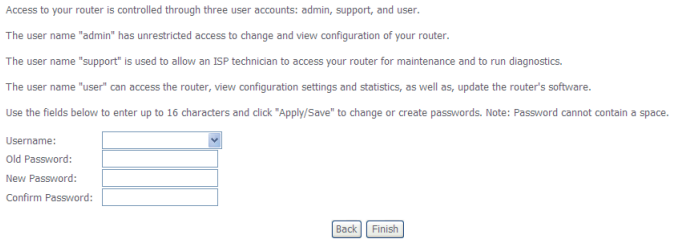



1. If a USB device is plugged into the USB port, it will be detected and you will have the choice to **Enable USB storage**
2. If you enable USB storage you will be shown the **netbios** and **Directory** name, you can change these to anything you want
3. Click **Next** once you are happy with the settings
4. To access the storage device open a web browser and type **\\Netbios\Directory**. So using the defaults **\\3G15Wn\USB-Storage**

## USB Print Server


1. If a USB device is plugged into the USB port, it will be detected and you will have the choice to **Enable on-board print server**
2. If you enable the device to work as a print server you will be asked to enter the **printer name** and **make and model.** Both fields can be named anything you like. The names will be used to identify the printer later.
3. Click **Next** once you are happy with the settings
4. To complete setting up your network printer, please read **Appendix A** of the **User Manual**

## Passwords




1. On this page you can change the passwords for the different levels of users
2. The default password for all users is the same as the corresponding username
3. Once you have completed setting the passwords click **Finish**
4. You will be taken back to the home page where you can view your connection status

## Establishing a Wireless Connection

You can connect multiple wireless devices, including laptops, desktops and PDA's to your device by following these two basic steps.

1. Using your wireless device, scan the wireless networks in your area and select the network called **NetComm Wireless**, then click **connect**.

Note: If you changed the SSID in the wireless quick setup, then your network name will be different

2. Enter the following default security key: **a1b2c3d4e5**

Note: To ensure wireless security, we recommend that you change the default settings through the web interface.
If you changed the wireless password in the wireless quicksetup, then your security key will be different

## Troubleshooting

**Cannot establish a wireless connection**

- Make sure the wireless switch on your laptop is in the **on** position
- Ensure your device and wireless adapter are using the same wireless security settings
- Make sure you are trying to connect to the correct SSID with the correct security key

**Cannot establish an ADSL connection**

- Ensure you have entered the correct **username** and **password** as supplied by your ISP. If you cannot find them please contact your ISP to ensure you have the correct details.

**Cannot establish a 3G Connection**

- Ensure you are using a compatible 3G USB Modem

Note: See NetComm Website for a list of compatible modems - www.netcomm.com.au

- Ensure you have entered the correct **3G Profile** (ISP name and pre/post paid) and that the **APN** is the same as supplied by your 3G ISP

**Cannot access the Web UI**

- If you have changed your username/password and forgotten them you will need to reset your router to the factory default settings and use the default settings **admin/admin**

**How to reset your router to the factory default settings**

- With a paperclip, sharp pencil or similar object press the **reset** button on the back panel of the device and hold for approximately 10 seconds.

# Web User Interface

# Web User Interface

## What can you do from here?

By logging into the web user interface, you are able to configure your 3G15Wn with a wide array of basic and advanced settings. From setting wireless security, to backing up your routers settings, uploading new firmware and setting parental controls, the web user interface is a handy tool for personalizing your device to maximize its potential. See below, in the rest of this user manual for a more advanced description on all elements of the web user interface

## Logging into the user interface

To login to the web interface, follow the steps below:

NOTE: The default settings can be found in Default Settings, listed earlier in this manual.

1: Open a web browser and enter the default IP address for the Router in the web address field. In this case **http://192.168.1.1**

NOTE: For local administration (i.e. LAN access), the PC running the browser must be attached to the Ethernet, and not necessarily to the device. For remote access, use the WAN IP address shown on the WUI Homepage screen and login with remote username and password.

2: A dialog box will appear, as illustrated below. Enter the default username and password, as defined in the section Default Settings.

Click OK to continue.


| | |
|---|---|
| **Username:** | admin |
| **Password:** | admin |

NOTE: The login password can be changed later (see Access Control > Passwords)

3: After successfully logging in for the first time, you will reach this following “Quick Setup” page.

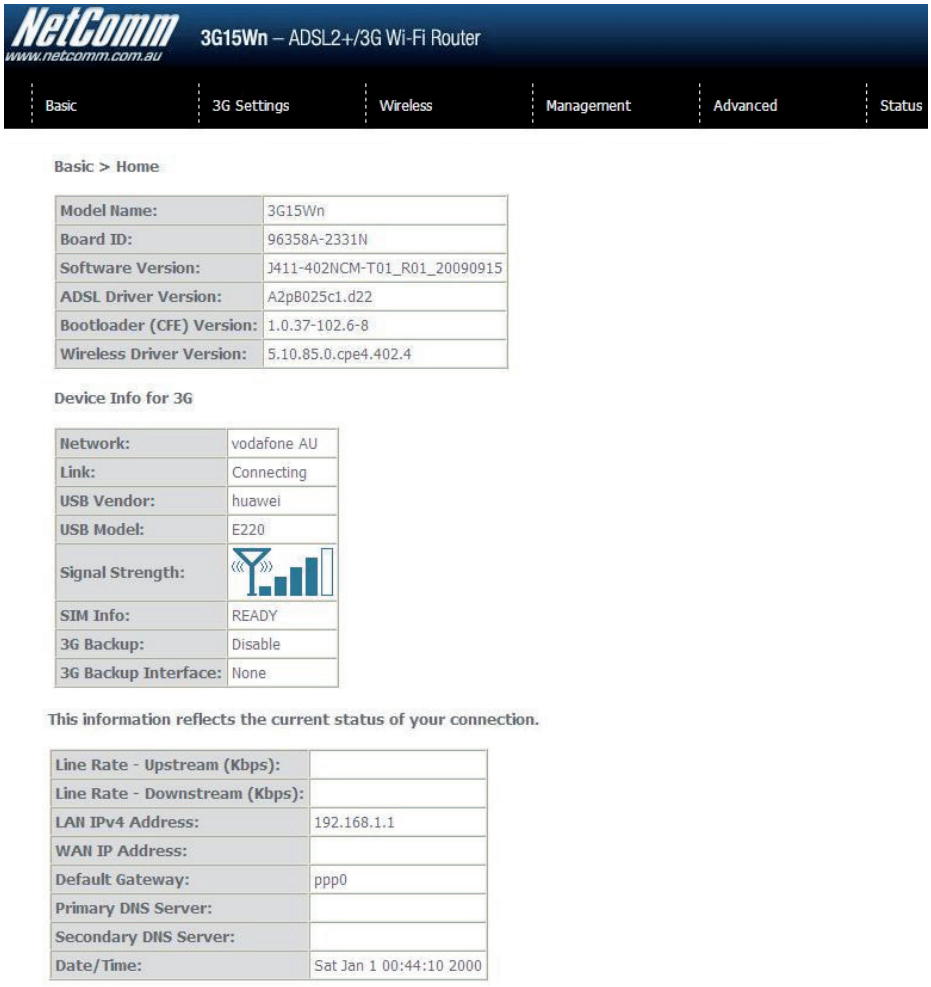
# Basic

# Basic

## Quick Setup

After you log into the web user interface, you will be taken directly to the Quick Setup page. See the instructions listed above in “Quick Setup” for instruction on how to configure your device for use.


## Home




The web user interface (WUI) is divided into two window panels, the main menu (on the top) and the display screen (on the bottom). The main menu has the following options: Basic, 3G Settings, Wireless, Management, Advanced and Status.

Selecting one of these options will open a submenu with more options. Basic is discussed below while subsequent chapters introduce the other main menu selections.

NOTE: The menu options available within the web user interface are based upon the device configuration and user privileges (i.e. local or remote).

The following table provides further details:

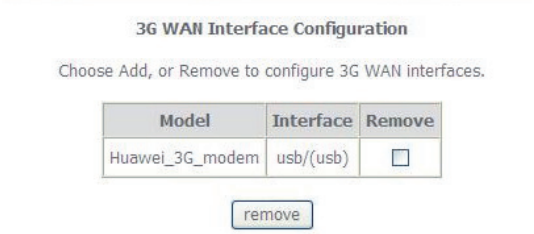
| Field | Description |
|---|---|
| **Model Name** | Model number of your device |
| **Board ID** | The unique number of the board inside your device |
| **Software Version** | The current version of software loaded on your device |
| **ADSL Driver Version** | The current ADSL driver version loaded on your device |
| **Bootloader (CFE) Version** | The version of the bootloader |
| **Wireless Driver Version** | The current version of wireless driver being used by your device |
| **Device Info For 3G** | |
| **Network** | The name of your 3G network |
| **Link** | The status of your 3G connection |
| **USB Vendor** | The manufacturer of the inserted 3G USB modem |
| **USB Model** | The manufacturers model number of the inserted 3G USB modem |
| **Signal Strength** | The level of signal that your 3G USB modem is receiving from your 3G service provider |
| **SIM Info** | Indicates whether or not your SIM card is activated and ready for use |
| **3G Backup** | Indicates whether you have set the 3G USB modem to act as failover for your ADSL connection |
| **3G Backup Interface** | Indicates the WAN interface that is to be back up |
| **Line Rate - Upstream** | The upstream line rate in Kbps (e.g. 256 Kbps) |
| **Line Rate - Downstream** | The downstream line rate in Kbps (e.g. 1500 Kbps) |
| **LAN IPv4 Address** | The IP address to access the 3G15Wn on the LAN side |
| WAN IP Address | The IP address to access the 3G15Wn on the WAN side |
| Default Gateway | The default gateway that your 3G15Wn communicates with |
| Primary DNS Server | The primary DNS server IP address |
| Secondary DNS Server | The secondary DNS server IP address |

# 3G Settings

# 3G Settings

## 3G Interface

On this screen you are able to select the 3G USB modem that you wish to use as your Internet connection. The field will auto fill with any compatible 3G USB modem



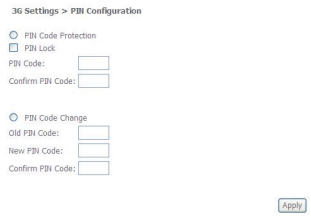

## 3G WAN Service

From the 3G WAN Service page you are able to setup your 3G connection with advanced settings. Simply press **Add** to manually configure advanced settings for your 3G connection. You can add as many different configurations as you like. If you would like to remove any configurations at any time, tick the **remove** box and press the **remove** button.


## PIN Configuration

This screen allows for changes to the 3G SIM card PIN code protection settings.

NOTE: If you have entered the incorrect PIN 3 times, your SIM card will be locked for your security. Please call your 3G Provider for assistance.




### PIN Code Protection

PIN code protection prevents the use of a SIM card by unauthorized persons. To use the 3G internet service with this router however, the PIN code protection must be disabled. If the SIM card inserted into the Router is locked with a PIN code, the web user interface will display the following screen after login.

### PIN Lock Off

If you wish to connect to the Internet using a PIN locked SIM card, you must first turn PIN code protection Off. Select PIN lock Off, enter the PIN Code twice. Please keep in mind you only have 3 attempts before your SIM card is locked. The remaining attempts' number shows how many attempts left. Contact Telstra if you require assistance. You can select Remember PIN Code to ON so you don't need to input the PIN code every time when the router turns on. Afterwards, click Apply. The following dialog box should now appear.

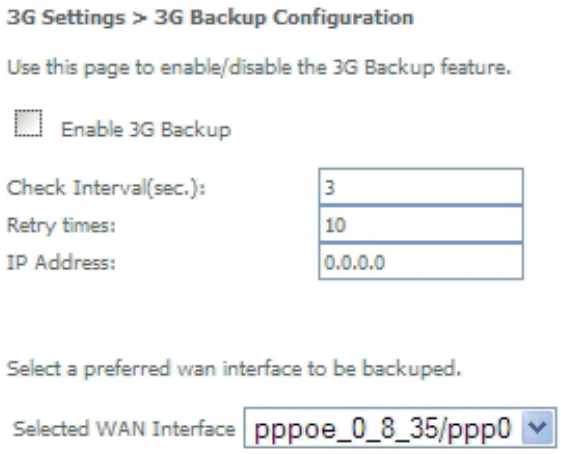
### PIN Code Change

If you wish to change your PIN code for greater security, enable the PIN Code protection. Go to the previous section and follow the procedure listed under PIN Lock On.

After locking the SIM card, select PIN Code Change and enter your Old and New PIN codes in the fields provided. Keep in mind you only have 3 attempts before your SIM card is locked. The remaining attempts' number shows how many attempts left. Contact Telstra if you require assistance. Afterwards, click Apply to activate the change.

# 3G Backup Config

On this page you are able to configure your 3G15Wn to use 3G as a backup to ADSL. Therefore if you have both connection options available, should your ADSL connection fail, for whatever reason, then your 3G will automatically kick in to ensure you remain connected to the Internet




| Option | Description |
|---|---|
| **Enable 3G backup** | Check this box to enable your 3G15Wn to work with 3G backup |
| **Check Interval** | The time in seconds that you 3G15Wn will check continuously for your ADSL Internet Connection. |
| **Retry times** | How many times the 3G15Wn will retry |
| **IP address** | The Public IP address that you would like to use for checking the ADSL Internet connection by Pinging |
| **Selected WAN Interface** | The WAN interface that you would like to backup with 3G |

# 3G

Allows you to set your preferred network type. You can choose between 3G only, GPRS (2G) only, 3G preferred and GPRS (2G) preferred.

# Wireless

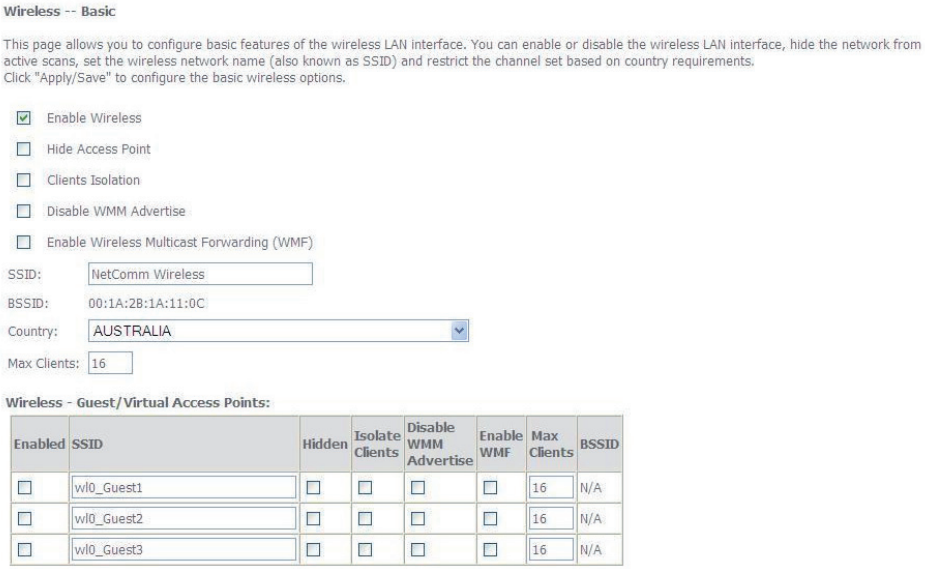
# Wireless

## Setup/Basic

The Wireless submenu provides access to Wireless Local Area Network (WLAN) configuration settings including:

- Wireless network name (SSID)
- Channel restrictions (based on country)
- Security
- Access point or bridging behaviour
- Station information

This screen allows you to configure basic features of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scans, set the wireless network name (also known as SSID) and restrict the channel set based on country requirements. The Wireless Guest Network function adds extra networking security when connecting to remote hosts.

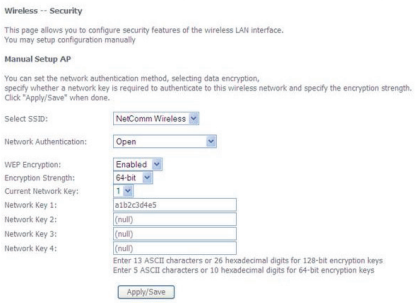



| Option | Description |
|---|---|
| **Enable Wireless** | A checkbox that enables (default) or disables the wireless LAN interface. When selected, the Web UI displays Hide Access point, SSID, BSSID and Country settings. |
| **Hide Access Point** | Select Hide Access Point to protect the access point from detection by wireless active scans. To check AP status in Windows XP, open Network Connections from the start Menu and select View Available Network Connections. If the access point is hidden, it will not be listed there. To connect a client to a hidden access point, the station must add the access point manually to its wireless configuration. |
| **Clients Isolation** | 1. Prevents clients PC from seeing one another in My Network Places or Network Neighborhood.<br>2. Prevents one wireless client communicating with another wireless client. |
| **Disable WMM Advertise** | Stops the router from 'advertising' its Wireless Multimedia (WMM) functionality, which provides basic quality of service for time-sensitive applications (e.g. VoIP, Video). |
| **Enable WMF** | Stops the router from 'advertising' its Wireless Multimedia (WMM) functionality, which provides basic quality of service for time-sensitive applications (e.g. VoIP, Video). |
| **SSID**<br>**[1-32 characters]** | Sets the wireless network name. SSID stands for Service Set Identifier. All stations must be configured with the correct SSID to access the WLAN. If the SSID does not match, that user will not be granted access. |
| **BSSID** | The BSSID is a 48bit identity used to identify a particular BSS (Basic Service Set) within an area. In Infrastructure BSS networks, the BSSID is the MAC (Media Access Control) address of the AP (Access Point) and in Independent BSS or ad hoc networks, the BSSID is generated randomly. |
| **Country** | A drop-down menu that permits worldwide and specific national settings. Each country listed below enforces specific regulations limiting channel range:<br>• Australia = 1-13 |
| **Wireless Guest Network** | The Guest SSID (Virtual Access Point) can be enabled by selecting the Enable Wireless Guest Network checkbox. Rename the Wireless Guest Network as you wish.<br>NOTE: Remote wireless hosts cannot scan Guest SSIDs. |

# Security

Security settings are used to prevent unauthorised connection to your network. This can be as basic as a neighbouring user who detects and is able to connect through your wireless network, right through to actual malicious interference or 'hacking'. Whatever the case, it is a good practice to be aware of and to use wireless network security to safeguard your data and your network.

Prior to considering the details of wireless security – provided later – the Quick Security Setup explains how to implement basic security on your 3G15Wn wireless network



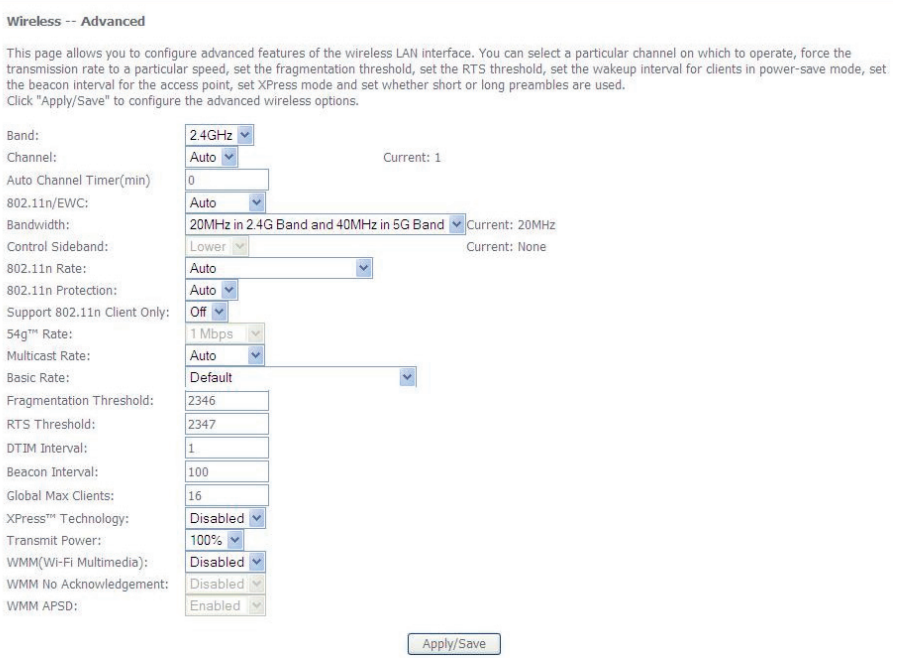

| Option | Description |
|---|---|
| **Select SSID** | Pre configured to the default of NetComm Wireless. Can be changed in the Wireless > Setup section |
| **Network Authentication** | Here, you can select the type of wireless security you desire |
| **WEP Encryption** | The option to enable or disable your wireless security encryption |
| **Encryption Strength** | The strength/length of your wireless security key. 64 bit is default |
| **Current Network Key** | The current network key that is active. You have the choice of setting up to 4 different wireless security keys |
| **Network Key 1** | The value of network key 1. Default value is a1b2c3d4e5 |
| **Network Key 2** | The value of network key 2 |
| **Network Key 3** | The value of network key 3 |
| **Network key 4** | The value of network key 4 |

# Configuration

The following screen appears when you select Configuration. This screen allows you to control the following advanced features of the Wireless Local Area Network (WLAN) interface:

- Select the channel which you wish to operate from
- Force the transmission rate to a particular speed
- Set the fragmentation threshold
- Set the RTS threshold
- Set the wake-up interval for clients in power-save mode
- Set the beacon interval for the access point
- Set Xpress mode
- Program short or long preambles

Click Save/Apply to set the advanced wireless configuration



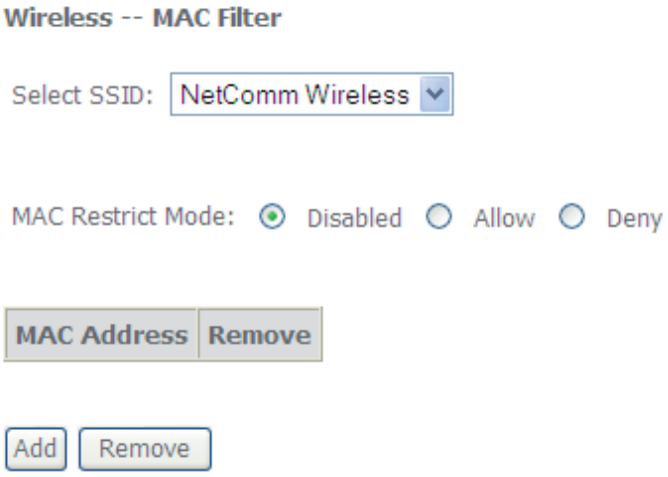

| Option | Description |
|---|---|
| **Band** | The new amendment allows IEEE 802.11g units to fall back to speeds of 11 Mbps, so IEEE 802.11b and IEEE 802.11g devices can coexist in the same network. The two standards apply to the 2.4 GHz frequency band. IEEE 802.11g creates data-rate parity at 2.4 GHz with the IEEE 802.11a standard, which has a 54 Mbps rate at 5 GHz. (IEEE 802.11a has other differences compared to IEEE 802.11b or g, such as offering more channels.) |
| **Channel** | Allows selection of a specific channel (1-14) or Auto mode. |
| **Auto Channel Timer** | The Auto Channel times the length it takes to scan in minutes. |
| **802.11n/EWC** | An equipment interoperability standard setting based on IEEE 802.11n Draft 2.0 and Enhanced Wireless Consortium (EWC) |
| **Bandwidth** | Drop-down menu specifies the following bandwidth: 20MHz in 2.4G Band and 40 MHz in 5G Band, 20MHz in both bands and 40MHz in both bands |
| **Control Sideband** | This is available for 40MHz. Drop-down menu allows selecting upper sideband or lower sideband |
| **802.11n Rate** | Drop-down menu specifies the following fixed rates. The maximum rate for bandwidth, 20MHz, is 130MHz and the maximum bandwidth, 40MHz, is 270MHz |
| **802.11n Protection** | Turn off for maximized throughput. Turn on for greater security |
| **Support 802.11n Client Only** | The option to provide wireless Internet access only to clients who are operating at 802.11n speeds |
| **54g Rate** | In Auto (default) mode, your Router uses the maximum data rate and lowers the data rate dependent on the signal strength. The appropriate setting is dependent on signal strength. Other rates are discrete values between 1 to 54 Mbps. |
| **Multicast rate** | Setting for multicast packet transmission rate. (1-54 Mbps) |
| **Basic Rate** | Sets basic transmission rate. |
| **Fragment Threshold** | A threshold (in bytes) determines whether packets will be fragmented and at what size. Packets that exceed the fragmentation threshold of an 802.11 WLAN will be split into smaller units suitable for the circuit size. Packets smaller than the specified fragmentation threshold value however are not fragmented.<br>Values between 256 and 2346 can be entered but should remain at a default setting of 2346. Setting the Fragmentation Threshold too low may result in poor performance. |
| **RTS Threshold** | Request To Send (RTS) specifies the packet size that exceeds the specified RTS threshold, which then triggers the RTS/CTS mechanism. Smaller packets are sent without using RTS/CTS. The default setting of 2347 (max length) will disables the RTS Threshold. |
| **DTIM Interval** | Delivery Traffic Indication Message (DTIM) is also known as Beacon Rate. The entry range is a value between 1 and 65535. A DTIM is a countdown variable that informs clients of the next window for listening to broadcast and multicast messages. When the AP has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. AP Clients hear the beacons and awaken to receive the broadcast and multicast messages. The default is 1. |
| **Beacon Interval** | The amount of time between beacon transmissions in is milliseconds. The default is 100 ms and the acceptable range is 1 – 65535. The beacon transmissions identify the presence of an access point. By default, network devices passively scan all RF channels listening for beacons coming from access points. Before a station enters power save mode, the station needs the beacon interval to know when to wake up to receive the beacon. |
| **Global Max Clients** | Here you have the option of setting the limit of the number of clients who can connect to your wireless network |
| **Xpress Technology** | Broadcom's Xpress™ Technology is compliant with draft specifications of two planned wireless industry standards. It has been designed to improve wireless network efficiency. Default is disabled |
| **Transmit Power** | The option of decreasing the transmitting power of your wireless signal |
| **WMM** | You can choose the enable or disable WMM which allows for priority of certain data over the wireless network |
| **WMM No Acknowledgement** | Refers to the acknowledge policy used at the MAC level. Enabling No Acknowledgement can result in more efficient throughput but higher error rates in a noisy Radio Frequency (RF) environment |
| **WMM APSD** | Automatic Power Save Delivery. Enable this to save power |

# MAC filter

This screen appears when Media Access Control (MAC) Filter is selected. This option allows access to be restricted based upon the unique 48-bit MAC address.

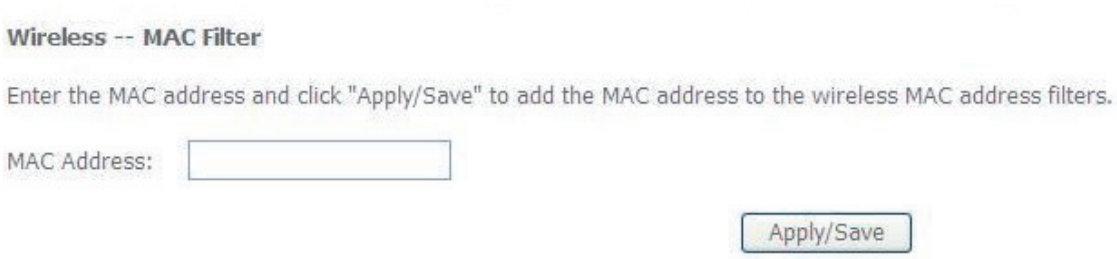
To add a MAC Address filter, click the **Add** button shown below.

To delete a filter, select it from the table below and click the **Remove** button.




| Option | Description |
|---|---|
| **MAC Restrict Mode** | **Disabled** – Disables MAC filtering<br>**Allow:** Permits access for the specified MAC addresses<br>NOTE: Add a wireless device's MAC address before clicking the Allow radio button or else you will need to connect to the Router's web user interface using the supplied yellow Ethernet cable and add the wireless device's MAC address. |
| **Deny** | Rejects access for the specified MAC addresses |
| **MAC Address** | Lists the MAC addresses subject to the MAC Restrict Mode. The Add button prompts an entry field that requires you type in a MAC address in a two-character, 6-byte convention: xx:xx:xx:xx:xx:xx where xx are hexadecimal numbers. A maximum of 60 MAC addresses can be added. |

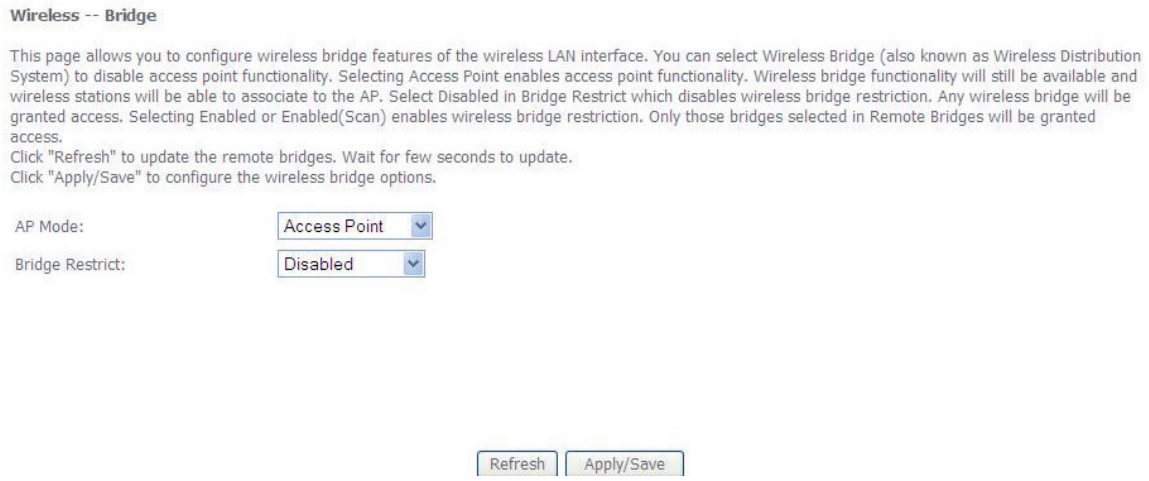
Enter the MAC address on the screen below and click **Save/Apply**.



# Wireless bridge

The following screen appears when selecting Wireless Bridge, and goes into a detailed explanation of how to configure wireless bridge features of the wireless LAN interface.

Click **Save/Apply** to implement new configuration settings.




| Option | Description |
|---|---|
| **AP Mode** | Selecting Wireless Bridge (Wireless Distribution System) disables Access Point (AP) functionality while selecting Access Point enables AP functionality. In Access Point mode, wireless bridge functionality will still be available and wireless stations will be able to associate to the AP. |
| **Bridge Restrict** | Selecting Disabled in Bridge Restrict disables Wireless Bridge restriction, which means that any wireless bridge will be granted access. Selecting Enabled or Enabled (Scan) allows wireless bridge restriction. Only those bridges selected in Remote Bridges will be granted access. Click Refresh to update the station list when Bridge Restrict is enabled. |

# Station info

The following screen appears when you select Station Info, and shows authenticated wireless stations and their status.

Click the **Refresh** button to update the list of stations in the WLAN.


| Option | Description |
|---|---|
| **MAC** | The MAC address of any connected client |
| **Associated** | Lists all the stations that are associated with the Access Point, along with the amount of time since packets were transferred to and from each station. If a station is idle for too long, it is removed from this list. |
| **Authorized** | Lists those devices with authorized access. |
| **SSID** | The SSID of your wireless network |
| **Interface** | The wireless interface being used to connect |

# Management

# Management

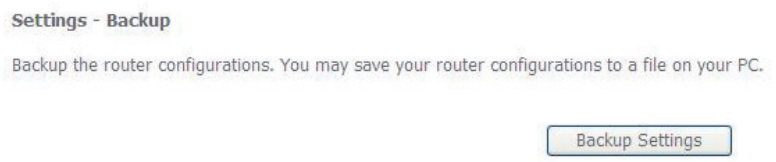
## Device Settings

The Device Settings screens allow you to backup, retrieve and restore the default settings of your Router. It also provides a function for you to update your Routers firmware.

### Backup

The following screen appears when Backup is selected. Click the **Backup Settings** button to save the current configuration settings.

You will be prompted to define the location of a backup file to save to your PC.

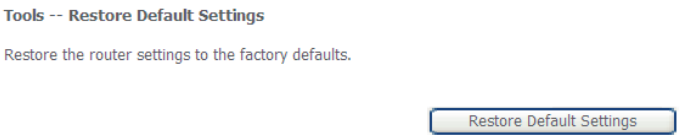



### Update

The following screen appears when selecting Update from the submenu. By clicking on the **Browse** button, you can locate a previously saved filename as the configuration backup file. Click on the **Update settings** to load it


### Restore Default

The following screen appears when selecting Restore Default. By clicking on the **Restore Default Settings** button, you can restore your Routers default firmware settings. To restore system settings, reboot your Router.




NOTE: The default settings can be found in the section Default Settings.

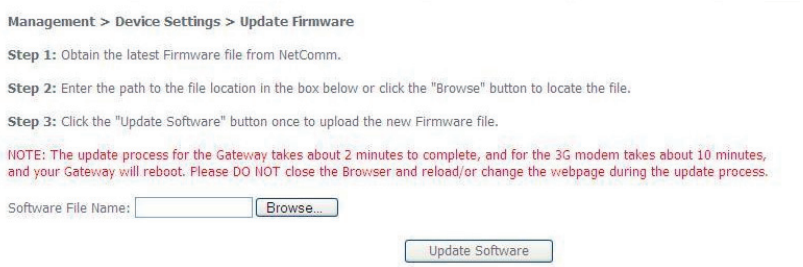
Once you have selected the Restore Default Settings button, the following screen will appear. Close the window and wait 2 minutes before reopening your browser. If required, reconfigure your PCs IP address to match your new configuration (see section 3.2 TCP/IP Settings for details).

After a successful reboot, the browser will return to the Device Info screen. If the browser does not refresh to the default screen, close and restart the browser.

NOTE: The Restore Default function has the same effect as the reset button. The device board hardware and the boot loader support the reset to default button. If the reset button is continuously pushed for more than 5 seconds (and not more than 12 seconds), the boot loader will erase the configuration settings saved on flash memory.

### Update Firmware

The following screen appears when selecting Update Firmware. By following this screens steps, you can update your Routers firmware. Manual device upgrades from a locally stored file can also be performed using the following screen.




1: Obtain an updated software image file

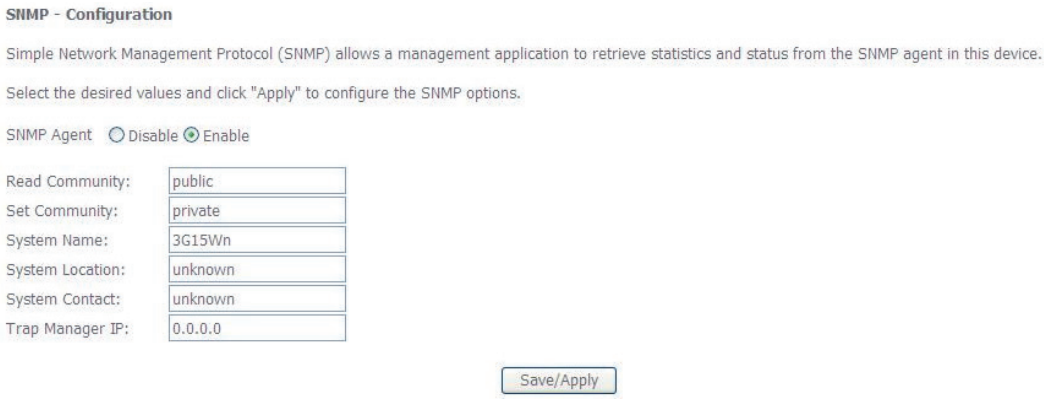
2: Enter the path and filename of the firmware image file in the Software File Name field or click the **Browse** button to locate the image file.

3: Click the **Update Software** button once to upload and install the file.

NOTE: The update process will take about 2 minutes to complete. The Router will reboot and the browser window will refresh to the default screen upon successful installation. It is recommended that you compare the Software Version at the top of the Basic screen (WUI homepage) with the firmware version installed, to confirm the installation was successful.

# SNMP

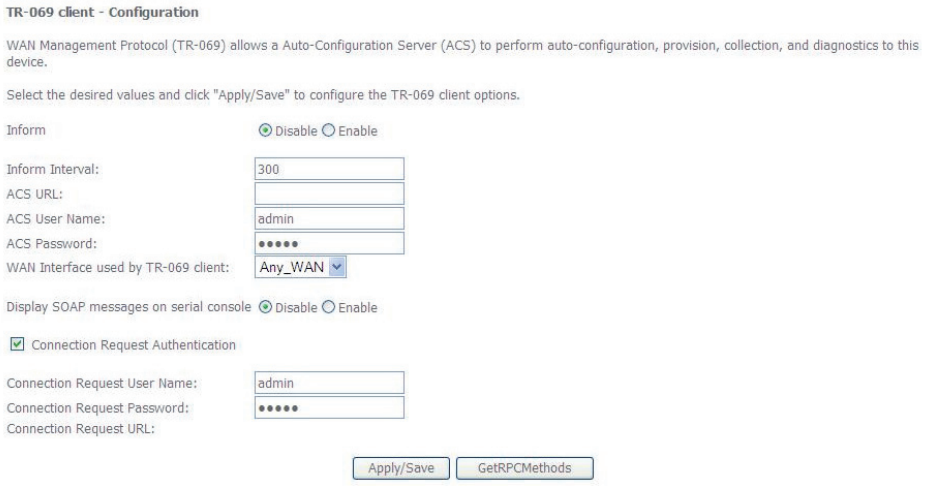
The Simple Network Management Protocol (SNMP) allows a network administrator to monitor a network by retrieving settings on remote network devices. To do this, the administrator typically runs an SNMP management station program such as MIB browser on a local host to obtain information from the SNMP agent, in this case the 3G15Wn (if SNMP enabled). An SNMP 'community' performs the function of authenticating SNMP traffic. A 'community name' acts as a password that is typically shared among SNMP agents and managers.




| Option | Description |
|---|---|
| **Read Community** | Read device settings |
| **Set Community** | Read and change device settings |
| **System Name** | Default = 3G15Wn |
| **System Location** | User defined value |
| **System Contact** | User defined value |
| **Trap Manager IP** | IP address of admin machine |

# TR-069 client

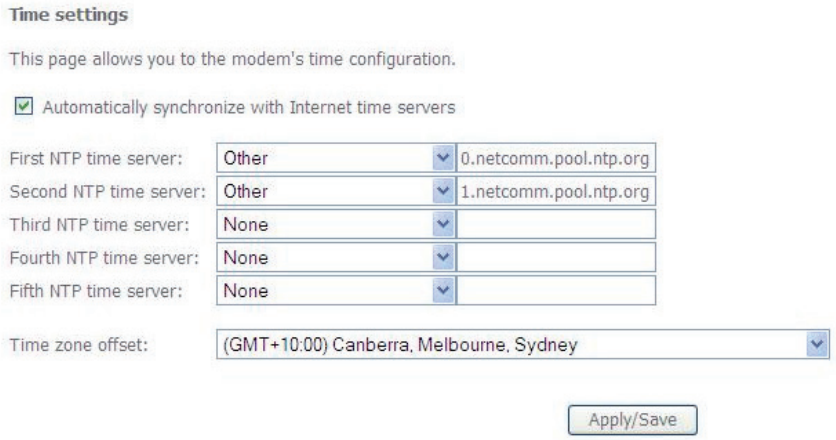
WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.




| Option | Description |
|---|---|
| **Inform** | Disable/Enable TR-069 client on the CPE |
| **Inform Interval** | The duration in seconds of the interval for which the CPE MUST attempt to connect with the ACS and call the Inform method |
| **ACS URL** | URL for the CPE to connect to the ACS using the CPE WAN Management Protocol. This parameter MUST be in the form of a valid HTTP or HTTPS URL. An HTTPS URL indicates that the ACS supports SSL. The "host" portion of this URL is used by the CPE for validating the certificate from the ACS when using certificate-based authentication |
| **ACS User Name** | Username used to authenticate the CPE when making a connection to the ACS using the CPE WAN Management Protocol. This username is used only for HTTP-based authentication of the CPE. |
| **ACS Password** | Password used to authenticate the CPE when making a connection to the ACS using the CPE WAN Management Protocol. This password is used only for HTTP-based authentication of the CPE |
| **WAN Interface used by TR-069 client** | Choose which WAN interface that TR-069 would use for communication with TR-069 Server. |
| **Connection Request Authentication** | Enable/Disable authentication of ACS making a Connection Request to the CPE. |
| **Connection Request User Name** | Username used to authenticate an ACS making a connection request to the CPE |
| **Connection Request Password** | Password used to authenticate an ACS making a connection request to the CPE |
| **Connection Request URL** | URL used to authenticate an ACS making a connection request to the CPE |

# SNTP

This screen allows you to configure the time settings of your Router.




| Option | Description |
|---|---|
| **First NTP timeserver:** | Select the required server. |
| **Second NTP timeserver:** | Select second timeserver, if required. |
| **Time zone offset:** | Select the local time zone. |

NOTE: SNTP must be activated to use Parental Control

# Access Control

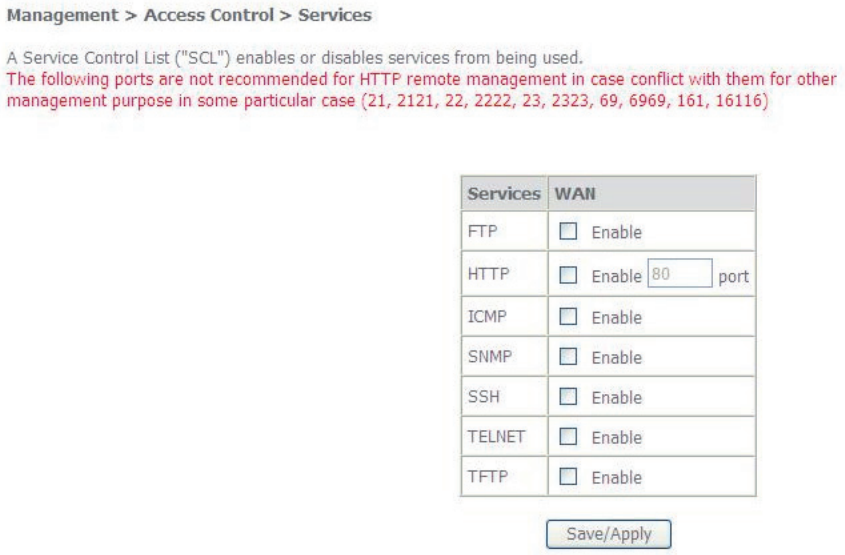
The Access Control option found in the Management drop down menu, configures access related parameters in the following three areas:

- Services
- Passwords
- Save/Reboot

Access Control is used to control local and remote management settings for your Router.

## Services

The Service Control List (SCL) allows you to enable or disable your Local Area Network (LAN) or Wireless Area Network (WAN) services by ticking the checkbox as illustrated below. These access services are available: FTP, HTTP, ICMP, SNMP, SSH, TELNET, and TFTP. Click Save/Apply to continue.

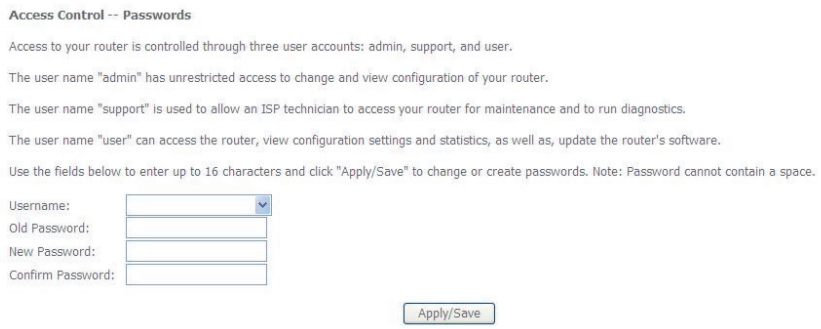


### Passwords

The Passwords option configures your account access password for your Router. Access to the device is limited to the following three user accounts:

- admin is to be used for local unrestricted access control
- support is to be used for remote maintenance of the device
- user is to be used to view information and update device firmware

Use the fields illustrated in the screen below to change or create your password. Passwords must be 16 characters or less with no spaces. Click Save/Apply to continue.




## Save/Reboot

This function saves the current configuration settings and reboots your Router.


NOTE 1: It may be necessary to reconfigure your TCP/IP settings to adjust for the new configuration. For example, if you disable the Dynamic Host Configuration Protocol (DHCP) server you will need to apply Static IP settings.

NOTE 2: If you lose all access to your web user interface, simply press the reset button on the rear panel for 5-7 seconds to restore default settings

# Advanced

# Advanced

## ATM interface

This page allows you to set your DSL connection with advanced configuration options. Select **Add** to include a new configuration and select **Remove** to delete the selected configuration. You can add as many configurations as you like

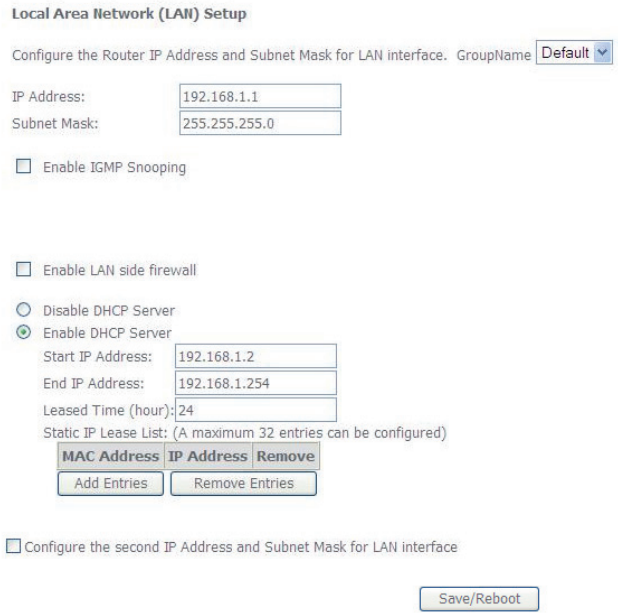

| Option | Description |
|---|---|
| **Interface** | Shows the Interface Name |
| **Vpi** | Shows the value of Vpi |
| **Vci** | Shows the value of Vci |
| **DSL Latency** | The value of the DSL latency |
| **Category** | Shows the ATM service classes |
| **Link Type** | Shows the type of the Link |
| **Connection Mode** | Shows the selected mode of connection |
| **QoS** | Shows the status of the QoS function |
| **Remove** | Select to remove ATM interface configuration |

## WAN service

Select WAN from the Device Info menu to display the status of all configured PVC(s).

# LAN

This screen allows you to configure the Local Area Network (LAN) interface on your Router.



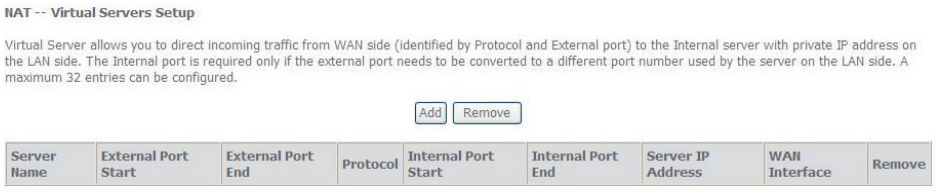

See the field descriptions below for more details.

| Option | Description |
|---|---|
| **IP Address** | Enter the IP address for the LAN interface |
| **Subnet Mask** | Enter the subnet mask for the LAN interface |
| **Enable IGMP Snooping** | Enable by ticking the box<br>Standard Mode: In standard mode, multicast traffic will flood to all bridge ports when no client subscribes to a multicast group.<br>Blocking Mode: In blocking mode, the multicast data traffic will be blocked. When there are no client subscriptions to a multicast group, it will not flood to the bridge ports. |
| **Enable LAN side Firewall** | Check box to enable Firewall on LAN |
| **Disable DHCP Server** | Disables the DHCP server. Only to be done if Static IP address is set up |
| **Enable DHCP Server** | Select Enable DHCP server and enter your starting and ending IP addresses and the lease time. This setting configures the router to automatically assign IP, default gateway and DNS server addresses to every DHCP client on your LAN |
| **Enable DHCP Server Relay** | To relay DHCP requests from the subnet with no DHCP server on it to a DHCP server on other subnets. DHCP Server Relay is disabled by default. To access enable DHCP relay, please un-tick NAT enable first, that means to disable NAT first, and then press save button. |
| **Configure the second IP Address and Subnet Mask for LAN Interface** | Configure a second IP address by ticking the checkbox shown below and enter the following information:<br>Enter the secondary IP address for the LAN interface.<br>Enter the secondary subnet mask for the LAN interface. |

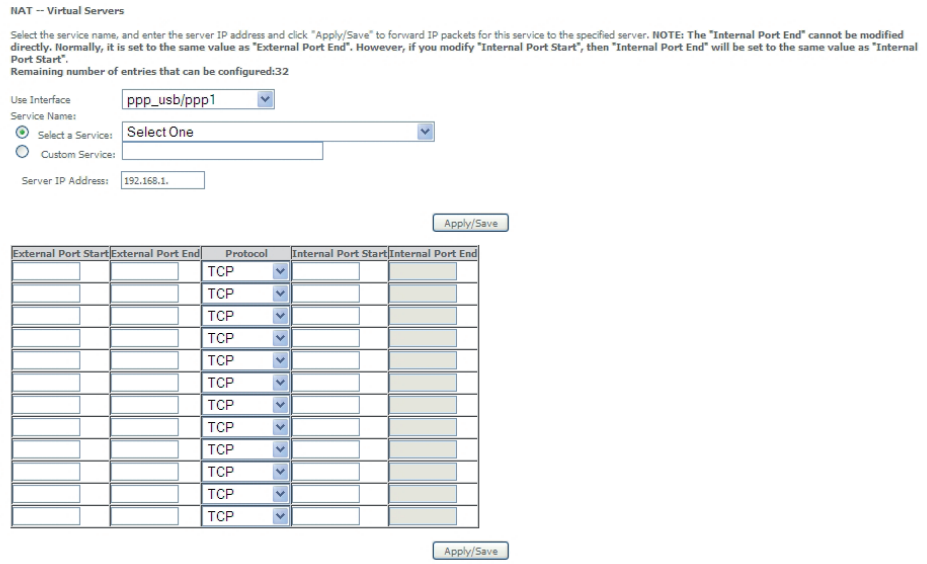
# NAT

## Port Forwarding

Port Forwarding allows you to direct incoming traffic from the Internet side (identified by Protocol and External port) to the internal server with a private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum of 32 entries can be configured.



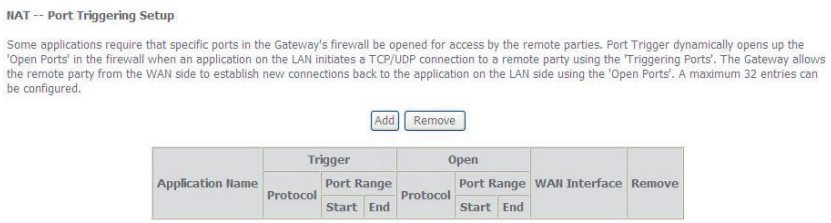

To add a Virtual Server, click the **Add** button. The following screen will display.



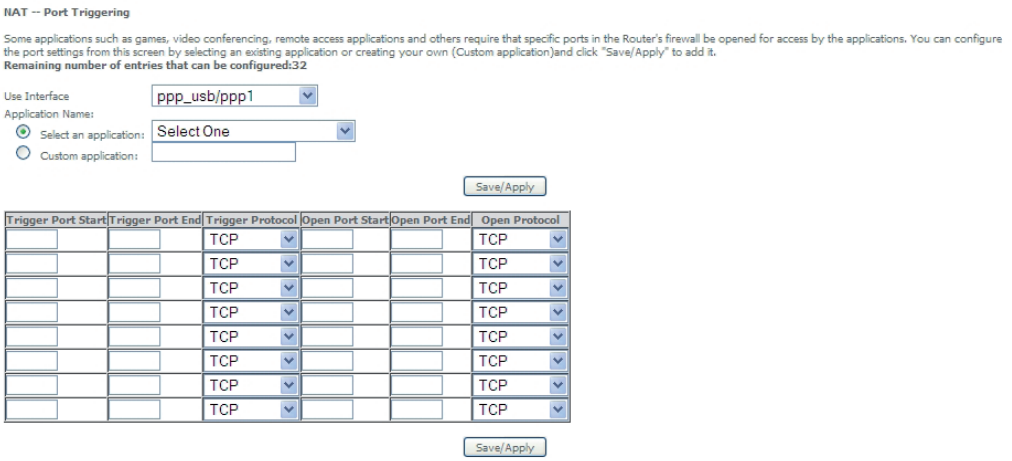

| Option | Description |
|---|---|
| **Select a Service Or Custom Server** | User should select the service from the list. Or<br>Create a customer server and enter a name for the server |
| **Server IP Address** | Enter the IP address for the server. |
| **External Port Start** | Enter the starting external port number (when you select Custom Server). When a service is selected the port ranges are automatically configured. |
| **External Port End** | Enter the ending external port number (when you select Custom Server). When a service is selected the port ranges are automatically configured. |
| **Protocol** | User can select from: TCP, TCP/UDP or UDP. |
| **Internal Port Start** | Enter the internal port starting number (when you select Custom Server). When a service is selected the port ranges are automatically configured |
| **Internal Port End** | Enter the internal port ending number (when you select Custom Server). When a service is selected the port ranges are automatically configured. |

## Port Triggering

Some applications require specific ports in the Router's firewall to be open for access by remote parties. Port Triggering opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum 32 entries can be configured.



To add a Trigger Port, simply click the **Add** button. The following will be displayed.

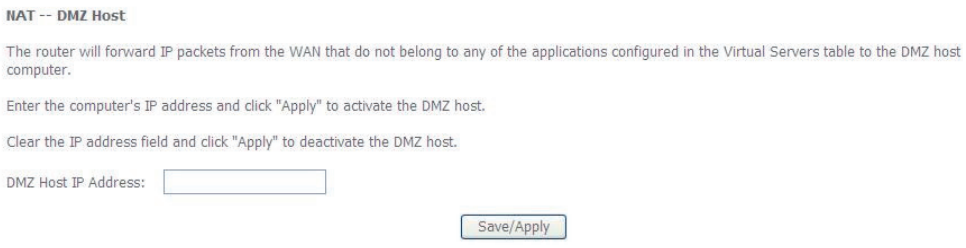



| Option | Description |
|---|---|
| **Select an Application or Custom Application** | User should select the application from the list. Or<br>User can enter the name of their choice. |
| **Trigger Port Start** | Enter the starting trigger port number (when you select custom application). When an application is selected, the port ranges are automatically configured. |
| **Trigger Port End** | Enter the ending trigger port number (when you select custom application). When an application is selected, the port ranges are automatically configured. |
| **Trigger Protocol** | TCP, TCP/UDP or UDP. |
| **Open Port Start** | Enter the starting open port number (when you select custom application). When an application is selected, the port ranges are automatically configured. |
| **Open Port End** | Enter the ending open port number (when you select custom application). When an application is selected, the port ranges are automatically configured. |
| **Open Protocol** | TCP, TCP/UDP or UDP |

### DMZ Host

Your Router will forward IP packets from the Wireless Area Network (WAN) that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer.

Enter the computer's IP address and click Apply to activate the DMZ host. Clear the IP address field and click **Apply** to deactivate the DMZ host.



# Security

Your Router can be secured with IP Filtering or Parental Control functions.

## IP Filtering

The IP Filtering screen sets filter rules that limit incoming and outgoing IP traffic. Multiple filter rules can be set with at least one limiting condition. All conditions must be fulfilled when individual IP packets pass filter.

## Outgoing IP Filter

The default setting for Outgoing traffic is ACCEPTED. Under this condition, all outgoing IP packets that match the filter rules will be BLOCKED.


To add a filtering rule, click the **Add** button. The following screen will display.


| Filter Name | The filter rule label |
|---|---|
| **Protocol** | TCP, TCP/UDP, UDP or ICMP Source IP address |
| **Source IP address** | Enter source IP address Source Subnet Mask |
| **Destination IP address** | Enter source subnet mask |
| **Source Port (port or port:port)** | Enter source port number or port range |
| **Destination IP address** | Enter destination IP address |
| **Destination Subnet Mask** | Enter destination subnet mask |
| **Destination port (port or port:port)** | Enter destination port number or range |

Click **Save/Apply** to save and activate the filter.

## Incoming IP Filter

The default setting for all Incoming traffic is BLOCKED. Under this condition only those incoming IP packets that match the filter rules will be ACCEPTED.


To add a filtering rule, click the **Add** button. The following screen will display.


Please refer to the Outgoing IP Filter table for field descriptions.

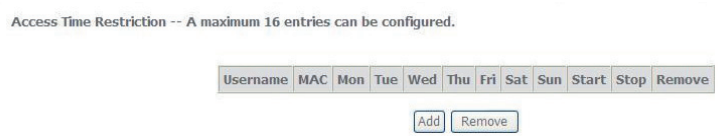
Click **Save/Apply** to save and activate the filter.

# Parental Control

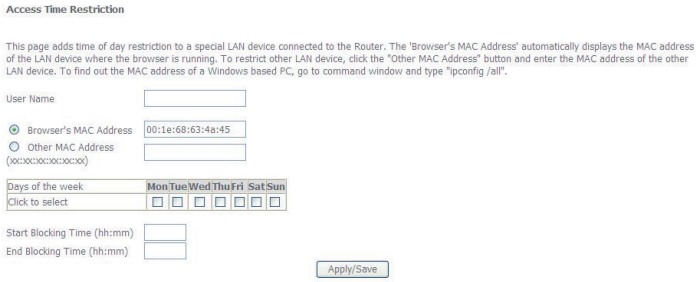
The Parental Control feature allows you to take advanced measures to ensure the computers connected to the LAN are used only when and how prescribed

## Time Restriction

This Parental Control allows you to restrict access from a Local Area Network (LAN) to an outside network through the Router on selected days at certain times. Make sure to activate the Internet Time server synchronization as described in the SNTP section of this manual, so that the scheduled times match your local time.




Click **Add** to display the following screen.




See instructions below and click **Save/Apply** to apply the settings.

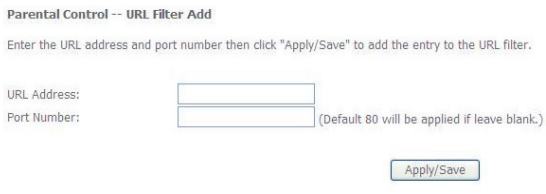
| Option | Description |
|---|---|
| **User Name:** | A user-defined label for this restriction |
| **Browser's MAC Address** | MAC address of the PC running the browser |
| **Other MAC Address:** | MAC address of another LAN device |
| **Days of the week** | The days the restrictions apply |
| **Start Blocking Time** | The time the restrictions start |
| **End Blocking Time** | The time the restrictions end |

## URL filter

With the URL filter, you are able to add certain websites or URLs to a safe or blocked list. This will provide you added security to ensure any website you deem unsuitable will not be able to be seen by anyone who is accessing the Internet via the 3G15Wn.

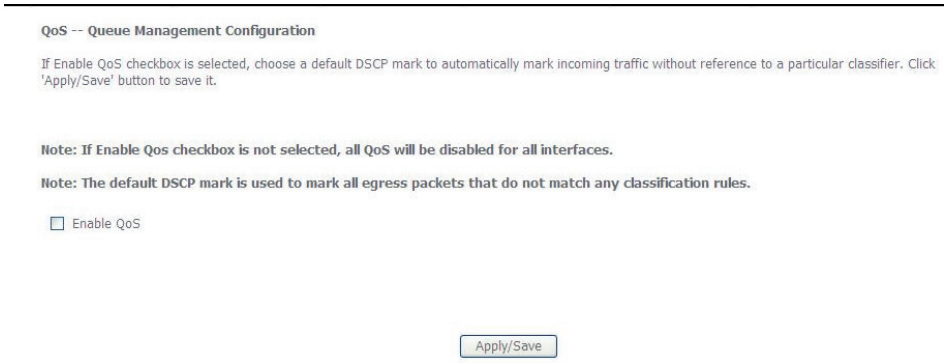
Simply check Exclude or Include and then click **Add** to enter the URL you wish added to a list


Once you have chosen to add a URL to the list you will be prompted to enter the address. Simply type it in and select **Apply/Save**



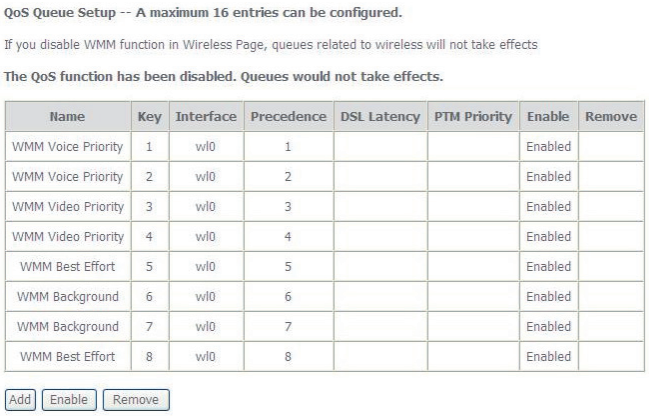
# Quality of Service

Quality of Service offers a defined level of performance in a data communications system - for example the ability to guarantee that video traffic is given priority over other network traffic to ensure that video streaming is not disrupted by other network requirements. This means that should you be streaming video and someone else in the house starts downloading a big file, the download won't disrupt the flow of video data.



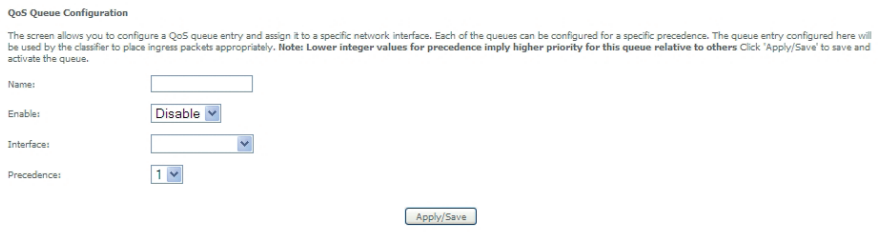

## Queue configuration

This function follows the Differentiated Services rule of IP QoS. You can create a new Queue rule by assigning an Interface, Enable/Disable and Precedence. The router uses various queuing strategies to tailor performance to user requirements

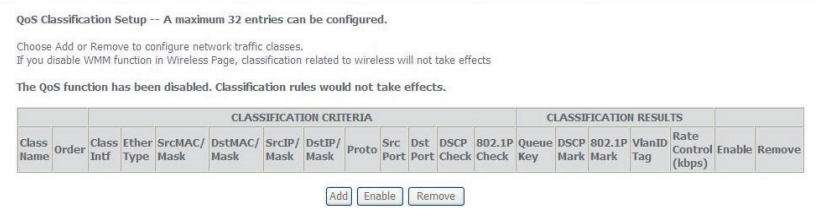



| Name | Key | Interface | Precedence | DSL Latency | PTM Priority | Enable | Remove |
|---|---|---|---|---|---|---|---|
| WMM Voice Priority | 1 | wl0 | 1 | | | Enabled | |
| WMM Voice Priority | 2 | wl0 | 2 | | | Enabled | |
| WMM Video Priority | 3 | wl0 | 3 | | | Enabled | |
| WMM Video Priority | 4 | wl0 | 4 | | | Enabled | |
| WMM Best Effort | 5 | wl0 | 5 | | | Enabled | |
| WMM Background | 6 | wl0 | 6 | | | Enabled | |
| WMM Background | 7 | wl0 | 7 | | | Enabled | |
| WMM Best Effort | 8 | wl0 | 8 | | | Enabled | |

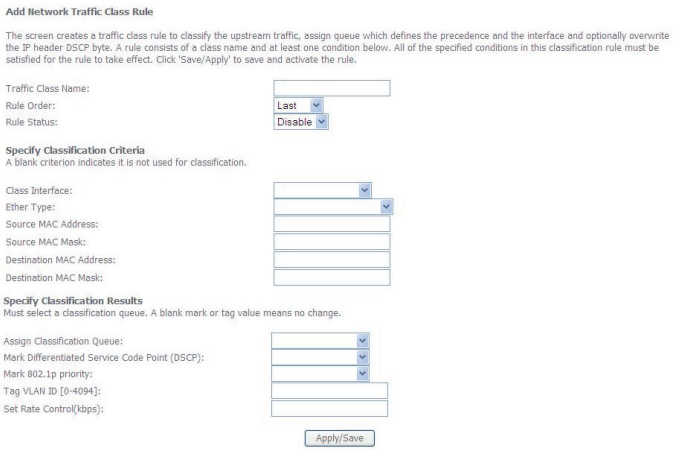
Click **Add** to display the following screen



## QoS classification




Click **Add** to configure network traffic classes.




This screen creates a traffic class rule to classify the upstream traffic, assign queuing priority and optionally overwrite the IP header TOS byte. A rule consists of a class name and at least one condition below. All of the specified conditions in this classification rule must be satisfied for the rule to take effect.

Click **Save/Apply** to save and activate the rule.

# Routing

Default Gateway, Static Route, Policy Routing and Dynamic Route settings can be found in the Routing link as illustrated below.

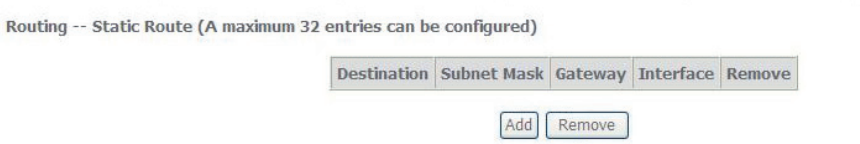
## Default gateway

Select your preferred WAN interface from the drop down box.

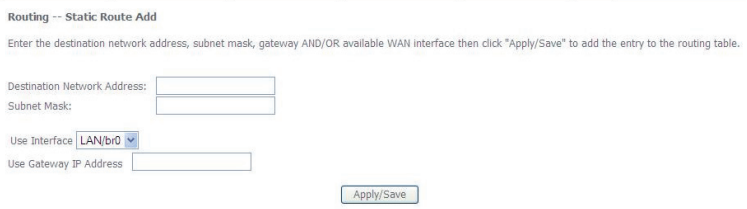

## Static route

The Static Route screen displays the configured static routes.

Click the **Add** or **Remove** buttons to change settings.




Click the **Add** button to display the following screen.




Enter Destination Network Address, Subnet Mask, Gateway IP Address and/or WAN Interface. Then click **Save/Apply** to add the entry to the routing table.

### Policy routing

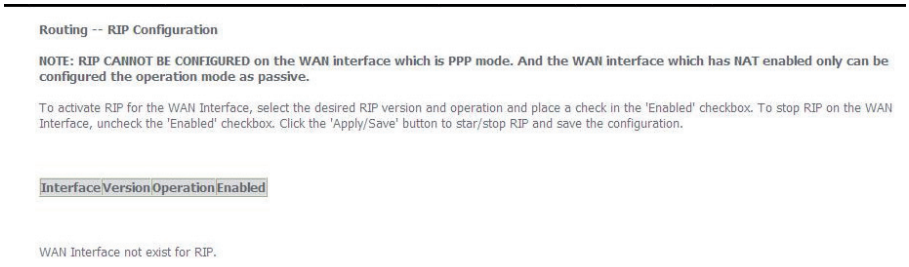
Allows you to add policy rules to certain situations


Click **Add** to display the following screen


### Dynamic router

To activate this option, select the Enabled radio button for Global RIP Mode.

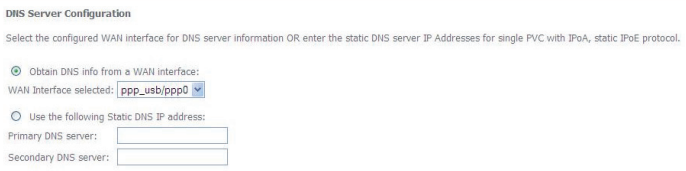
To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the Enabled checkbox for that interface. Click **Save/Apply** to save the configuration and to start or stop dynamic routing.



# DNS

## DNS server

This page allows user to enable automatic DNS from the ISP or specify their own DNS server address manually

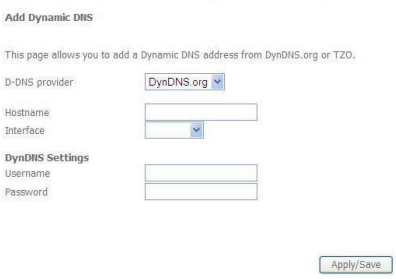



## Dynamic DNS

The Dynamic DNS service allows a dynamic IP address to be aliased to a static hostname in any of a selection of domains, allowing the router to be more easily accessed from various locations on the internet.


Note: The Add/Remove buttons will be displayed only if the router has been assigned an IP address from the remote server.

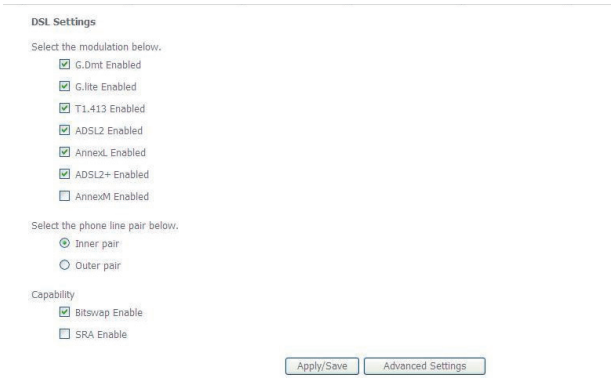
To add a dynamic DNS service, click the **Add** button and this screen will display.




| Name | Description |
|---|---|
| **D-DNS provider** | Select a dynamic DNS provider from the list |
| **Hostname** | Enter the name for the dynamic DNS server |
| **Interface** | Select the interface from the list |
| **Username** | Enter the username for the dynamic DNS server |
| **Password** | Enter the password for the dynamic DNS server |

# DSL

This page allows the user to modify the DSL modulation settings on the unit. By changing the settings, the user can specify which DSL modulation that the modem will use.

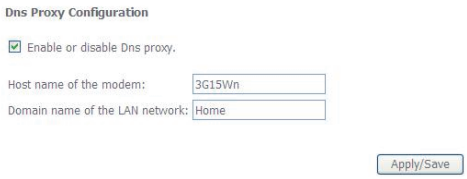


# UPnP

Simply check or uncheck the box and press **Apply/Save** to enable or disable the UPnP protocol

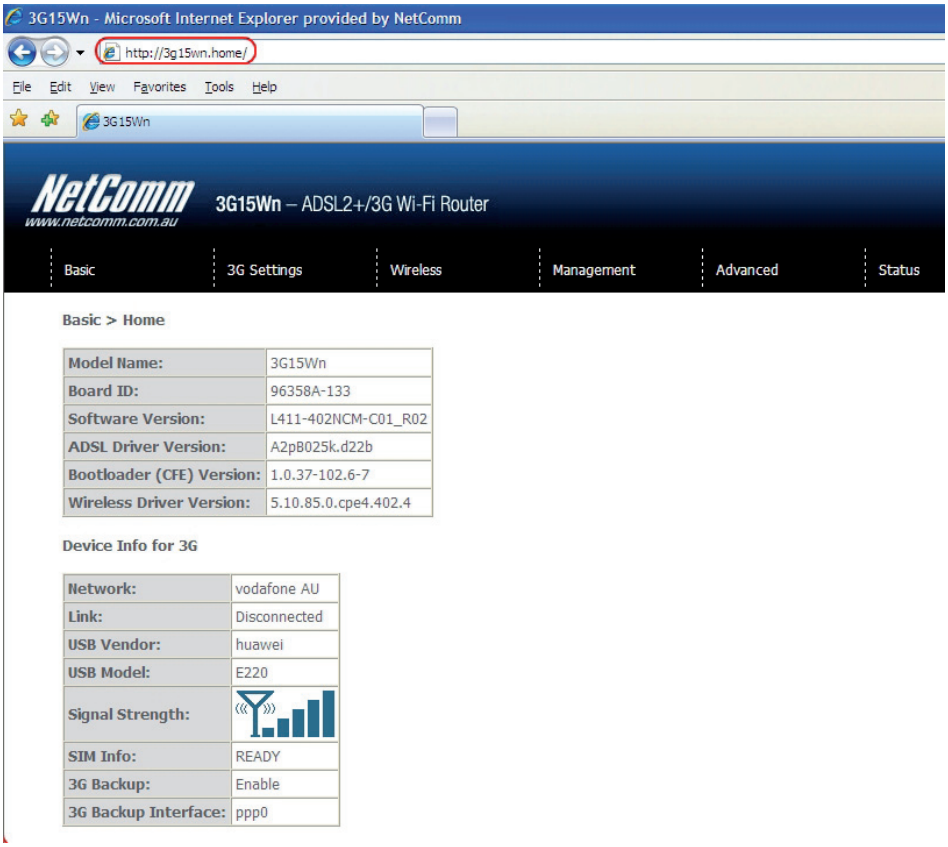

# DNS proxy

To enable DNS Proxy, tick the corresponding checkbox and then enter host and Domain name, as the example shown below. Click **Apply/Save** to continue.




The Host Name and Domain name are combined to form a unique label that is mapped to the router IP address. This can be used to access the WebUI with a local name rather than by using the router IP address.

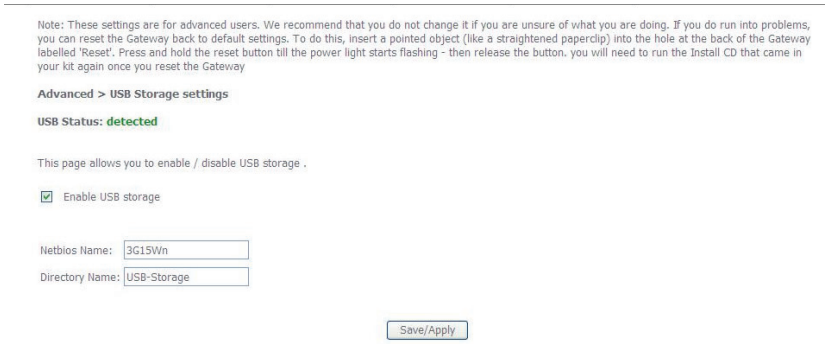
The figure below shows an example of this which is the default setting.



# USB Storage

This page allows you to enable/disable the USB port of the 3G15Wn to be used as a mass storage server

Please see Appendix B for more details on setting up your router to work with Storage Server functionality




# Print Server

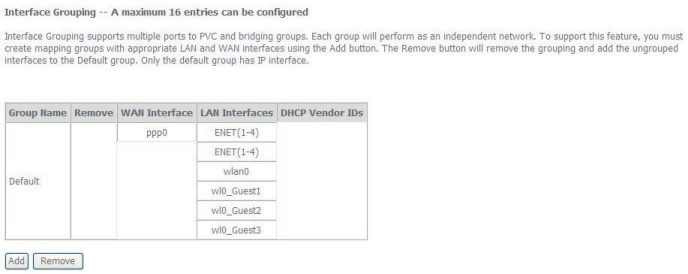
This page allows you to enable/disable the USB port of the 3G15Wn to be used as a print server

Please see Appendix A for more details on setting up your router to work with Print Server functionality

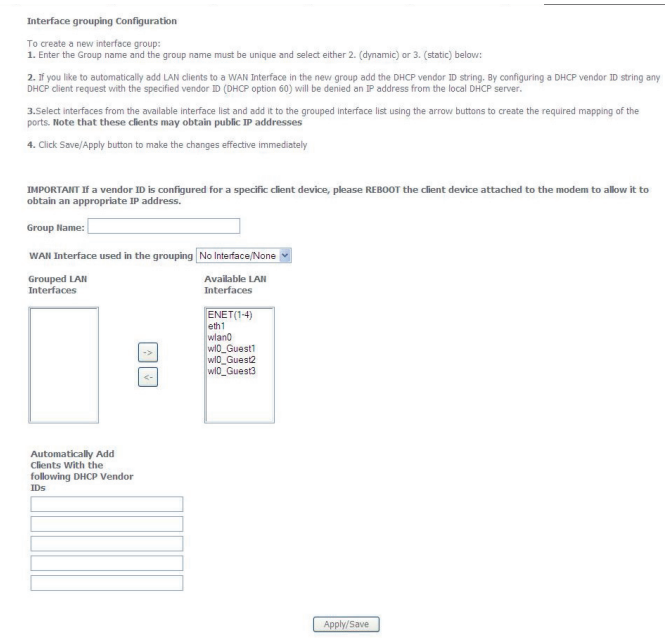
# Interface grouping

Interface grouping supports multiple ports to PVC and bridge groups. Each group performs as an independent network. To use this feature, you must create mapping groups with appropriate LAN and WAN interfaces using the Add button.

The Remove button removes mapping groups, returning the ungrouped interfaces to the default group. Only the default group has an IP interface.




To add an Interface Group, click the **Add** button. The following screen will appear. It lists the available and grouped interfaces. Follow the instructions shown below:

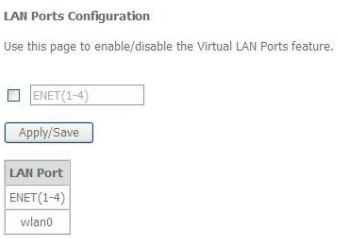



Automatically Add Clients with the following DHCP Vendor IDs

Add support to automatically map LAN interfaces to PVC's using DHCP vendor ID (option 60). The local DHCP server will decline and send the requests to a remote DHCP server by mapping the appropriate LAN interface. This will be turned on when Interface Grouping is enabled.

# LAN ports

Use this page to enable/disable the Virtual LAN Ports feature



# Status

# Status

The Status menu has the following submenus:

- Diagnostics
- System Log
- 3G network
- Statistics
- Route
- ARP
- DHCP

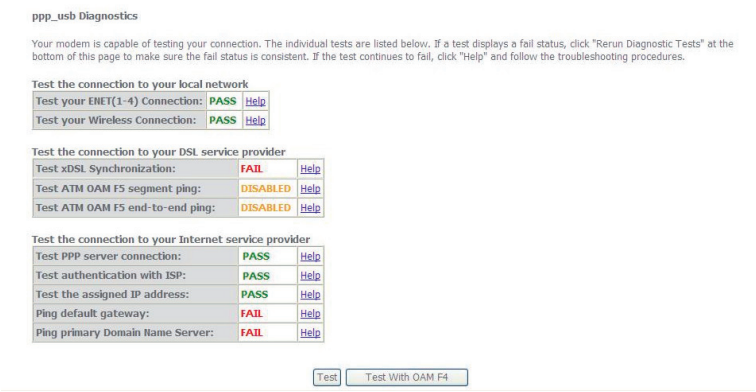
## Diagnostics

The Diagnostics menu provides feedback on the connection status of the device. The individual tests are listed below. If a test displays a fail status:

1: Click on the Help link

2: Now click Re-run Diagnostic Tests at the bottom of the screen to re-test and confirm the error

3: If the test continues to fail, follow the troubleshooting procedures in the Help screen.

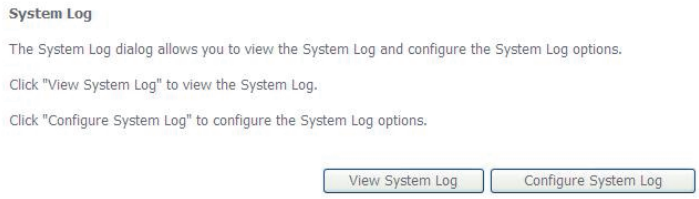



| Option | Description |
|---|---|
| **ENET Connection** | Pass: Indicates that the Ethernet interface from your computer is connected to the LAN port of this Router.<br>Fail: Indicates that the Router does not detect the Ethernet interface on your computer. |
| **Test your Wireless Connection** | Pass: Indicates that the wireless card is ON.<br>Down: Indicates that the wireless card is OFF. |
| **Test xDSL synchronisation** | Pass: Indicates that the router has detected an ADSL signal from the telephone company.<br>Fail: Indicates that the router does not detect a signal from the telephone company's DSL network. |
| **Test ATM OAM F5 segment ping** | Pass: Indicates that the DSL modem can communicate with the DSL provider network.<br>Fail: Indicates that the DSL modem may not be able to communicate with the DSL provider network. This test may have an effect on your Internet connectivity. Occasionally the DSL provider network may intentionally block this traffic. Therefore if this test fails but you are still able to access the Internet, there is no need to troubleshoot this issue. |
| **Test ATM OAM F5 end-to-end ping** | Pass: Indicates that the DSL modem can communicate with the DSL provider network.<br>Fail: Indicates that the DSL modem may not be able to communicate with the DSL provider network. Occasionally the DSL provider network may intentionally block this traffic. Therefore if this test fails but you are still able to access the Internet, there is no need to troubleshoot this issue. |
| **Test PPP server connection** | Pass: Indicates that your modem can see the PPP server (the modem received a PADO packet from the PPP server).<br>Fail: Indicates that the modem cannot see the PPP server (the modem did not receive a PADO packet from the PPP server). A flashing green PPP LED on the modem signifies an attempt to establish a PPP connection. |
| **Test authentication with ISP** | Pass: Indicates that your username and password stored in the modem has authenticated with ISP's network.<br>Fail: Indicates that the modem was unable to verify your username and password with ISP's network. |
| **Test the assigned IP address** | Pass: Indicates that the modem has received a valid IP (Internet Protocol) address from the PPP server.<br>Fail: Indicates that the modem does not have a valid IP address from the PPP server. |
| **Ping default gateway** | Pass: Indicates that the modem can communicate with the first entry point to the network. It is usually the IP address of the ISP local router.<br>Fail: Indicates that the modem was unable to communicate with the first entry point on the network. It may not have an effect on your Internet connectivity. Therefore if this test fails but you are still able to access the Internet, there is no need to troubleshoot this issue. |
| **Ping Primary Domain Name Server** | Pass: Indicates that the Router can communicate with the primary Domain Name Server (DNS).<br>Fail: Indicates that the Router was unable to communicate with the primary Domain Name Server (DNS). It may not have an effect on your Internet connectivity. Therefore if this test fails but you are still able to access the Internet, there is no need to troubleshoot this issue. |

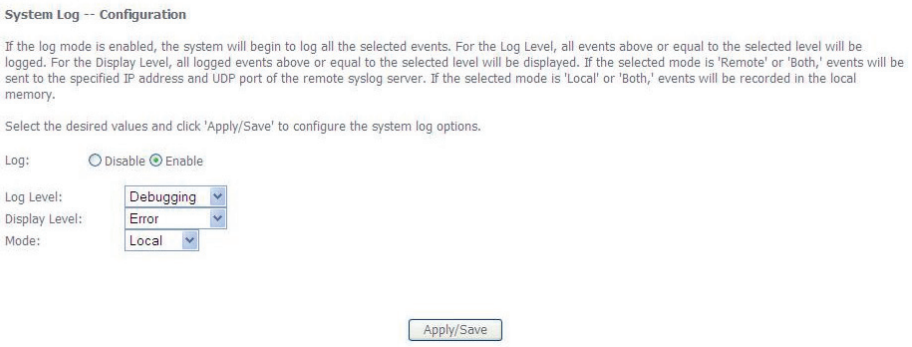
# System Log

This function allows you to view system events and configure related options. Follow the steps below to enable and view the System Log.

1: Click **Configure System Log** to continue.

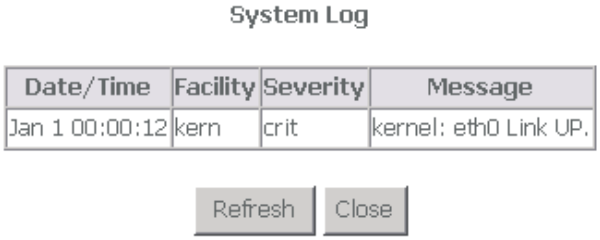



2: Select the system log options (see table below) and click **Apply/Save**.




| Option | Description |
|---|---|
| **Log** | Indicates whether the system is currently recording events. You can enable or disable event logging. By default, it is disabled. |
| **Log level** | Allows you to configure the event level and filter out unwanted events below this level. The events ranging from the highest critical level "Emergency" down to this configured level will be recorded to the log buffer on the Router's SDRAM. When the log buffer is full, the newest event will wrap up to the top of the log buffer and overwrite the oldest event. By default, the log level is "Debugging", which is the lowest critical level. The log levels are defined as follows:<br>Emergency is the most serious event level, whereas Debugging is the least important. For instance, if the log level is set to Debugging, all the events from the lowest Debugging level to the most critical level Emergency level will be recorded. If the log level is set to Error, only Error and the level above will be logged. |
| **Display Level** | Allows you to select the logged events and displays on the View System Log window for events of this level and above to the highest Emergency level. |
| **Mode** | Allows you to specify whether events should be stored in the local memory, be sent to a remote syslog server, or to both simultaneously.<br>If remote mode is selected, the view system log will not be able to display events saved in the remote syslog server. When either Remote mode or Both mode is configured, the WEB UI will prompt the you to enter the Server IP address and Server UDP port. |

3: Click View System Log. The results are displayed as follows.



# Statistics

These screens provide detailed information for:

- Local Area Network (LAN), Wide Area Network (WAN), ATM and ADSL
- 3G Interfaces

NOTE: These statistics page refresh every 15 seconds.

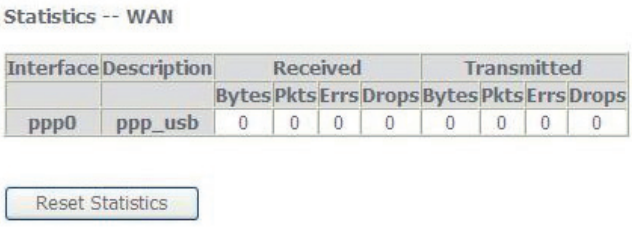
## LAN

This screen displays statistics for the Ethernet and Wireless LAN interfaces


| Interface | Shows connection interfaces | |
|---|---|---|
| **Received/Transmitted** | **Bytes** | Rx/TX (receive/transmit) packet in bytes |
| | **Pkts** | Rx/TX (receive/transmit) packets |
| | **Errs** | Rx/TX (receive/transmit) packets with errors |
| | **Drops** | Rx/TX (receive/transmit) packets dropped |

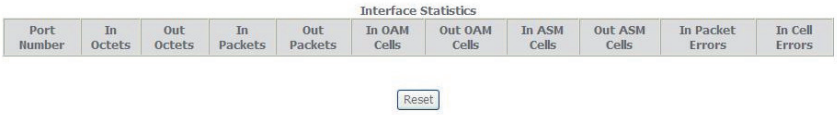
## WAN

This screen displays statistics for the Ethernet and Wireless LAN interfaces




| Interface | Shows connection interfaces | |
|---|---|---|
| **Received/Transmitted** | **Bytes** | Rx/TX (receive/transmit) packet in bytes |
| | **Pkts** | Rx/TX (receive/transmit) packets |
| | **Errs** | Rx/TX (receive/transmit) packets with errors |
| | **Drops** | Rx/TX (receive/transmit) packets dropped |

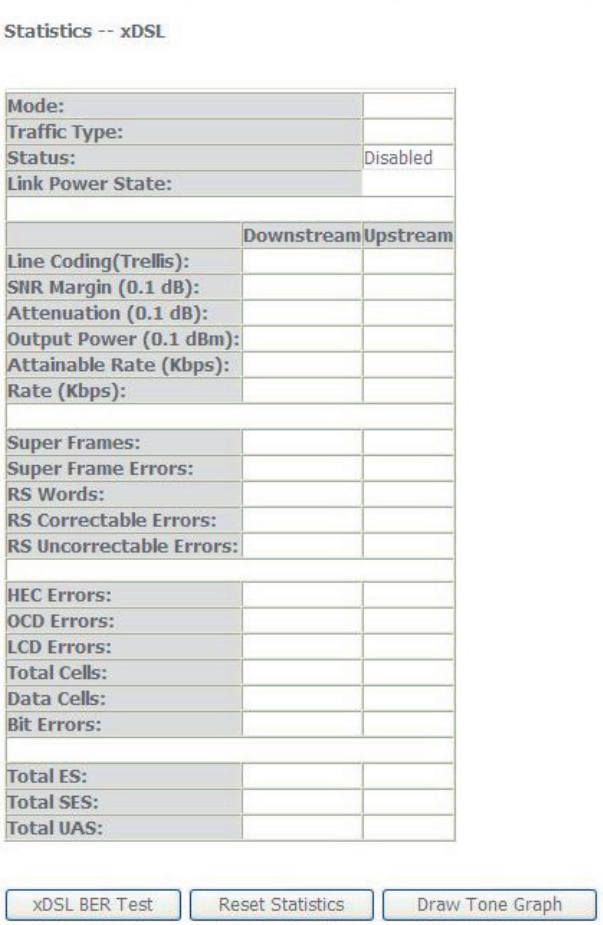
## ATM




| Field | Description |
|---|---|
| **In Octets** | Number of received octets over the interface |
| **Out Octets** | Number of transmitted octets over the interface |
| **In Errors** | Number of cells dropped due to uncorrectable HEC errors |
| **In Unknown** | Number of received cells discarded during cell header validation, including cells with unrecognized VPI/VCI values, and cells with invalid cell header patterns. If cells with undefined PTI values are discarded, they are also counted here. |
| **In Hec Errors** | Number of cells received with an ATM Cell Header HEX error |
| **In Invalid Vpi Vci Errors** | Number of cells received with an unregistered VCC address. |
| **In Port Not Enable Errors** | Number of cells received on a port that has not been enabled. |
| **In PTI Errors** | Number of cells received with an ATM header Payload Type Indicator (PTI) error |
| **In Idle Cells** | Number of idle cells received |
| **In Circuit Type Errors** | Number of cells received with an illegal circuit type |
| **In OAM RM CRC Errors** | Number of OAM and RM cells received with CRC errors |
| **In GFC Errors** | Number of cells received with a non-zero GFC. |

## ADSL

The following graphic shows the ADSL Network Statistics screen. The Reset button (located at the bottom of the screen) can be used to reset statistics. The bit error rate can be tested by clicking the ADSL BER Test button.



Consult the table that follows for field descriptions.

| Field | Description |
|---|---|
| **Mode** | Line Coding format (e.g. G.dmt, G.lite, T1.413, ADSL2) |
| **Type** | Channel type (Interleave or Fast) |
| **Line Coding** | Trellis On/Off |
| **Status** | Lists the status of the ADSL link |
| **Link Power State** | Link output power state. |
| **SNR Margin (dB)** | Signal to Noise Ratio (SNR) margin |
| **Attenuation (dB)** | Estimate of average loop attenuation in the downstream direction. |
| **Output Power (dBm)** | Total upstream output power |
| **Attainable Rate (Kbps)** | The sync rate you would obtain. |
| **Rate (Kbps)** | Current sync rate. |

G.DMT mode the following section is inserted here.

| | |
|---|---|
| **K** | Number of bytes in DMT frame |
| **R** | Number of check bytes in RS code word |
| **S** | RS code word size in DMT frame |
| **D** | The interleaver depth |
| **Delay** | The delay in milliseconds (msec) |

In ADSL2+ mode the following section is inserted here.

| | |
|---|---|
| **MSGc** | Number of bytes in overhead channel message |
| **B** | Number of bytes in Mux Data Frame |
| **M** | Number of Mux Data Frames in FEC Data Frame |
| **T** | Max Data Frames over sync bytes |
| **R** | Number of check bytes in FEC Data Frame |
| **S** | Ratio of FEC over PMD Data Frame length |
| **L** | Number of bits in PMD Data Frame |
| **D** | The interleaver depth |
| **Delay** | The delay in milliseconds (msec) |

| | |
|---|---|
| **Super Frames** | Total number of super frames |
| **Super Frame Errors** | Number of super frames received with errors |
| **RS Words** | Total number of Reed-Solomon code errors |
| **RS Correctable Errors** | Total Number of RS with correctable errors |
| **RS Uncorrectable Errors** | Total Number of RS words with uncorrectable errors |

| | |
|---|---|
| **HEC Errors** | Total Number of Header Error Checksum errors |
| **OCD Errors** | Total Number of out-of-cell Delineation errors |
| **LCD Errors** | Total number of Loss of Cell Delineation |
| **Total Cells** | Total number of ATM cells (including idle and data cells) |
| **Data Cells** | Total number of ATM data cells |
| **Bit Errors** | Total number of bit errors |

In ADSL2+ mode the following section is inserted here.

| | |
|---|---|
| **Total ES:** | Total Number of Errored Seconds |
| **Total SES:** | Total Number of Severely Errored Seconds |
| **Total UAS:** | Total Number of Unavailable Seconds |

# Route

Select Route to display the paths the Router has found.

Device Info -- Route

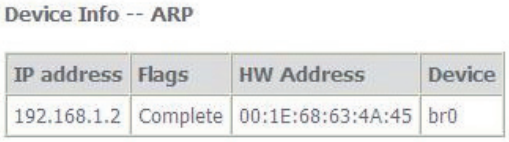
Flags: U - up, ! - reject, G - gateway, H - host, R - reinstate
D - dynamic (redirect), M - modified (redirect).

| Destination | Gateway | Subnet Mask | Flag | Metric | Service | Interface |
|---|---|---|---|---|---|---|
| 192.168.1.0 | 0.0.0.0 | 255.255.255.0 | U | 0 | | br0 |

| Field | Description |
|---|---|
| **Destination** | Destination network or destination host |
| **Gateway** | Next hop IP address |
| **Subnet Mask** | Subnet Mask of Destination |
| **Flag** | U: route is up<br>!: reject route<br>G: use gateway<br>H: target is a host<br>R: reinstate route for dynamic routing<br>D: dynamically installed by daemon or redirect<br>M: modified from routing daemon or redirect |
| **Metric** | The 'distance' to the target (usually counted in hops). It is not used by recent kernels, but may be needed by routing daemons. |
| **Service** | Shows the name for WAN connection |
| **Interface** | Shows connection interfaces |

# ARP

Click ARP to display the ARP information.



Device Info -- ARP

| IP address | Flags | HW Address | Device |
|---|---|---|---|
| 192.168.1.2 | Complete | 00:1E:68:63:4A:45 | br0 |

| Field | Description |
|---|---|
| **IP address** | Shows IP address of host pc |
| **Flags** | Complete<br>Incomplete<br>Permanent<br>Publish |
| **HW Address** | Shows the MAC address of host pc |
| **Device** | Shows the connection interface |

# DHCP

Click DHCP to display the DHCP information.

Device Info -- DHCP Leases

| Hostname | MAC Address | IP Address | Expires In |
|---|---|---|---|
| Marketing9 | 00:1e:68:63:4a:45 | 192.168.1.2 | 22 hours, 55 minutes, 10 seconds |

| Field | Description |
|---|---|
| **Hostname** | Shows the device/host/PC network name |
| **MAC Address** | Shows the Ethernet MAC address of the device/host/PC |
| **IP address** | Shows IP address of device/host/PC |
| **Expires In** | Shows how much time is left for each DHCP Lease |

# Appendix

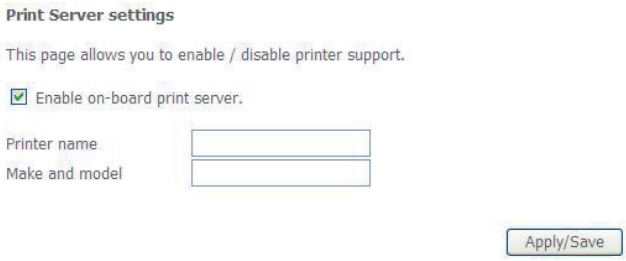
# Appendix A: Print Server

These steps explain the procedure for enabling the Print Server.

1. Enable Print Server from the Advanced menu in the Web User Interface.

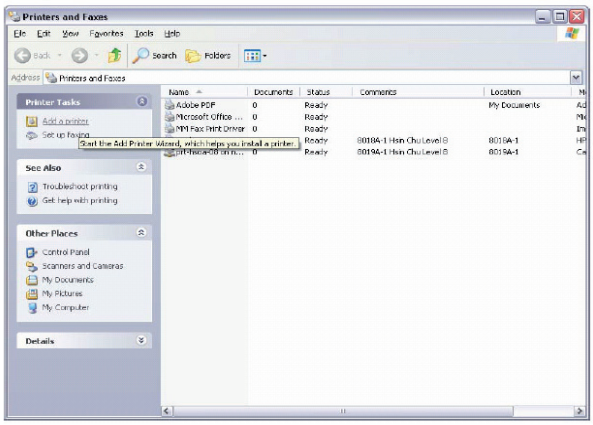
Select Enable on-board print server checkbox and enter Printer name and Make and model

NOTE: The Printer name can be any text string up to 40 characters. The Make and model can be any text string up to 128 characters.

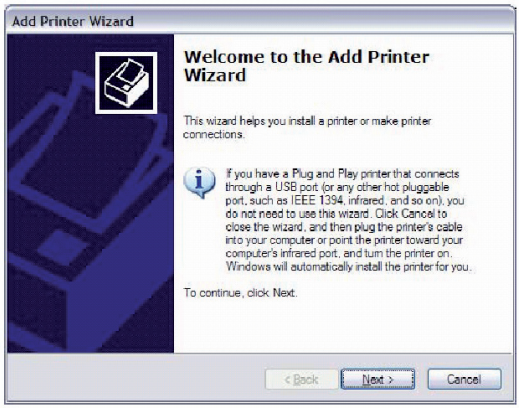



## For Windows XP:

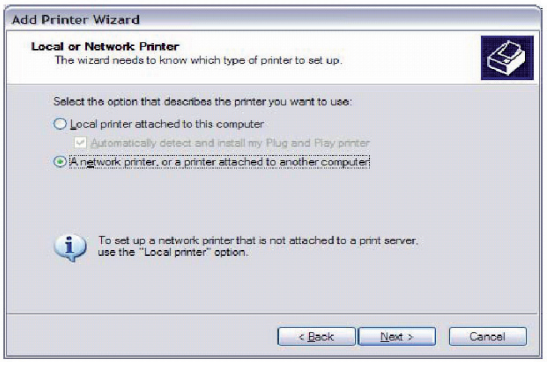
2. Go to the Printers and Faxes application in the Control Panel and select the Add a printer function (as located on the side menu below).




3. Click **Next** to continue, when you see the dialog box below.

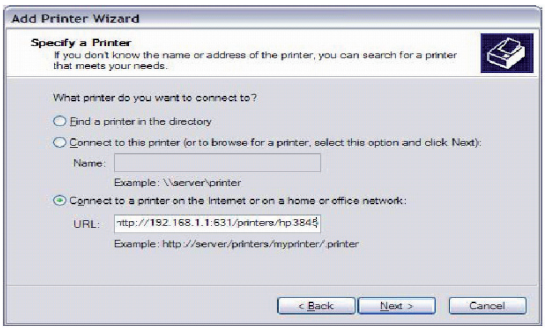


4. Select Network Printer and click **Next**.

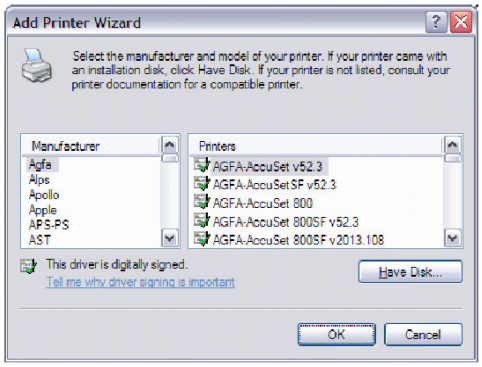



5. Select **Connect** to a printer on the Internet and enter your printer link.
   (e.g. http://192.168.1.1/printers/printername) and click **Next**.

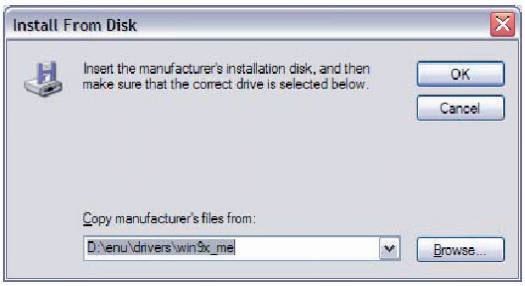
NOTE: The printer name must be the same name entered in the web user interface "printer server setting" as in step 1.



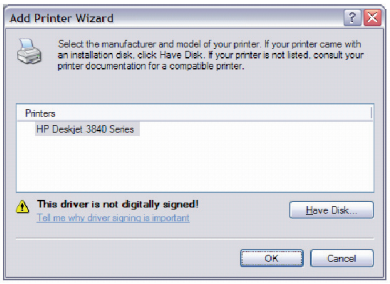

6. Click **Have Disk** and insert the printer driver CD.



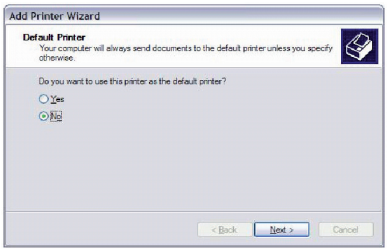

7. Select driver file directory on CD-ROM and click **OK**.



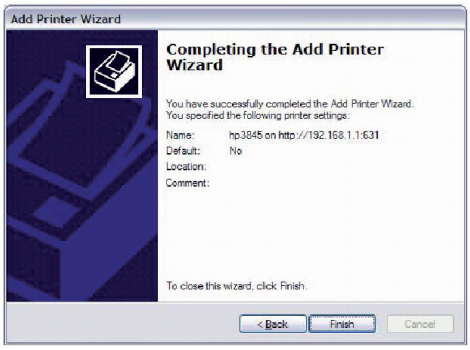
8. Once the printer name appears, click **OK**.



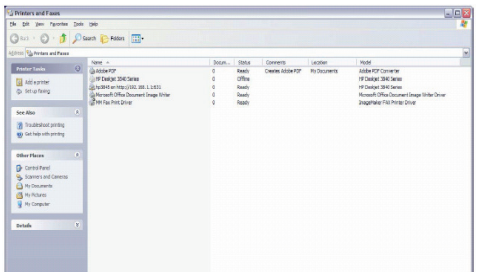

9. Choose Yes or No for default printer setting and click **Next.**




10. Click "**Finish**".

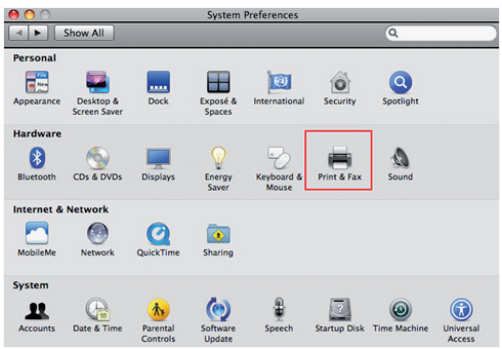



11. Check the status of printer from Windows Control Panel, printer window. Status should show as Ready.

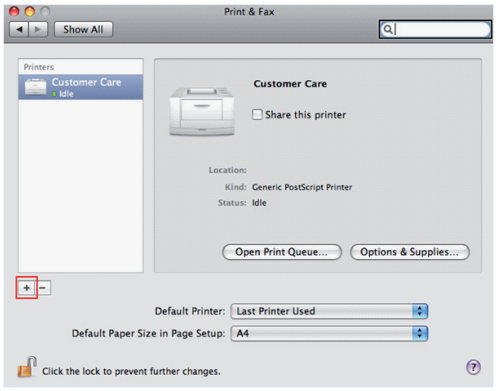


# For Mac OSX:

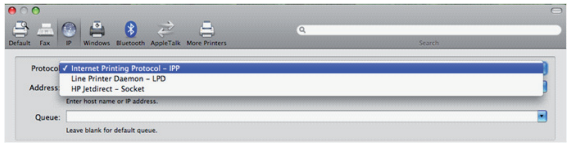
2. Browse to the Apple menu and select System Preferences. In the System Preferences menu click on Print & Fax.
3. With your Printer driver installed, please add your printer from the Printer & Fax menu.



4. Click + to add your printer from the Print & Fax menu.



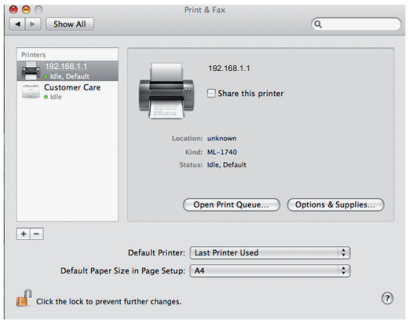

5. Select Internet Printing Protocol – IPP from the Protocol drop down list.




6. Type into the Address field “GatewayIPAddress:361” where GatewayIPAddress is the IP address of your Gateway (default: 192.168.1.1). See screenshot below for an example. Also enter into the Queue field “/printers/PrinterName”, where PrinterName is the name you gave your printer in the initial step above.

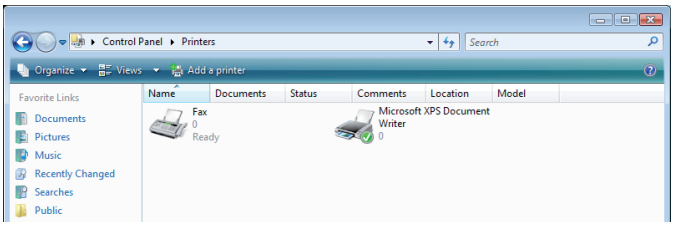

7. Select your printer from the Print Using drop down list.


8. Click Add and check the printer status.

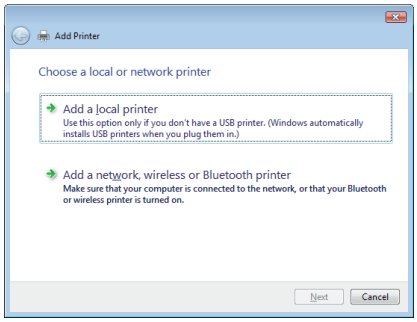


Print Server set up is now complete. You will now be able to print from common applications by selecting this printer from the Print dialogue box.

2. Go to the control panel, and select Printers. Once in the Printers page, click the Add a printer button as shown below.

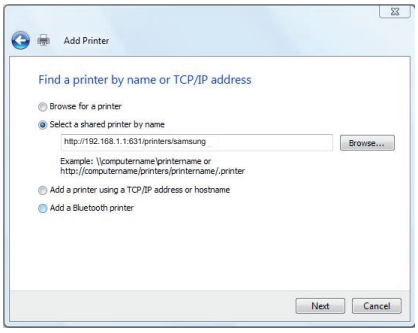



3. Select Add a network, wireless or bluetooth printer.

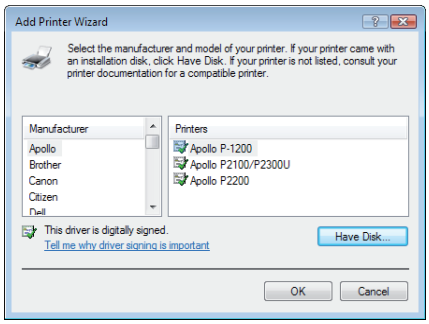



4. Click on the radio-button labelled Select a shared printer by name, and type “http://192.168.1.1/printers/PrinterName” in the box below. Click Next.

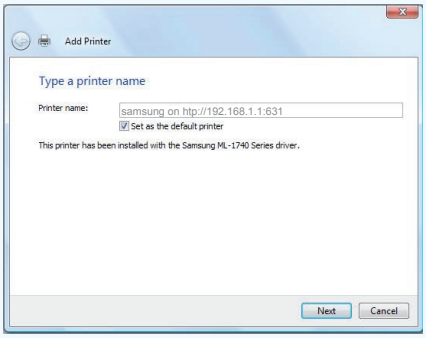
NOTE: The PrinterName must be the same as the printer name entered in the Web User Interface above.



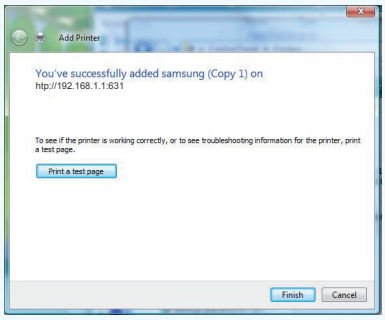

5. Next, select the driver that came with your printer. Browse through the list to select your printer driver, or click ‘Have Disk’ if you have your printer driver installation media.



6. Choose whether you want this printer to be the default printer, and then click Next.




7. Click Finish. Your device is now configured and ready for use.

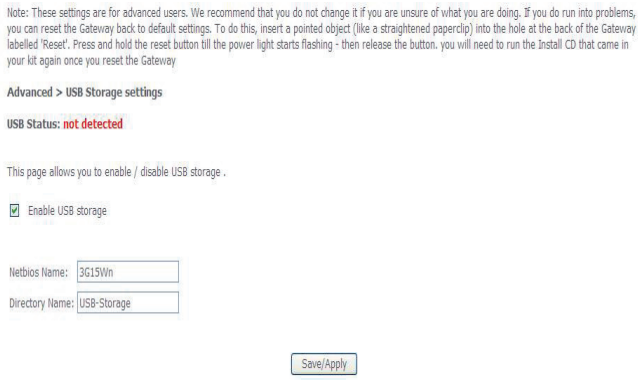


# Appendix B: USB Storage

These steps explain the procedure for enabling the USB Storage.

1. Enable USB storage from Web User Interface.

Select Enable USB storage checkbox and enter Netbios name and Directory Name

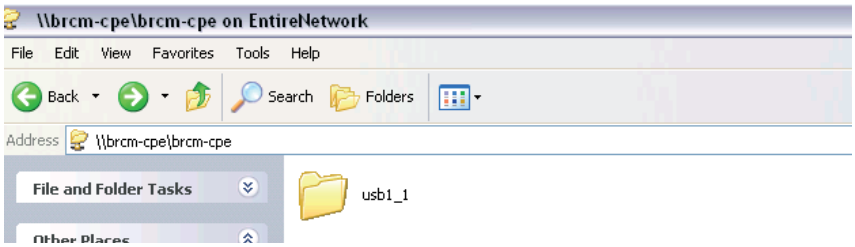



| Field | Description |
|---|---|
| **Netbios Name** | It is the hostname of the PC |
| | The default name is “3G15Wn” |
| **Directory Name** | The folder name of “root” directory. |
| | The default name is “USB-Storage” |

## For Windows XP:

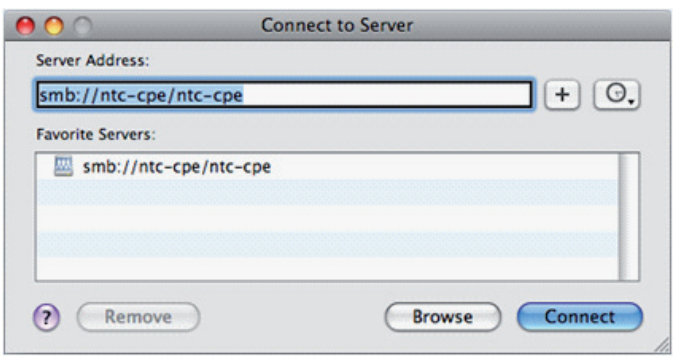
2. Open a web-browser (such as Internet Explorer, Firefox or Safari) and type in the address. \\”NetbiosName”\”DirectoryName”\ (eg. \\3G15Wn\USB-Storage)

Note: There is no username and password required to access the USB drive, the user will be able to read/write the folder/files in the USB drive.

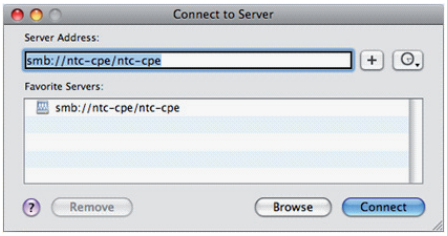



## For Mac OSX:

2. From the Finder, select the Go and then click Connect to Server
3. In the address field of the Connect to Server dialog, type in the address: smb:// “NetbiosName”/“DirectoryName” (eg smb://3G15Wn/USB-Storage)



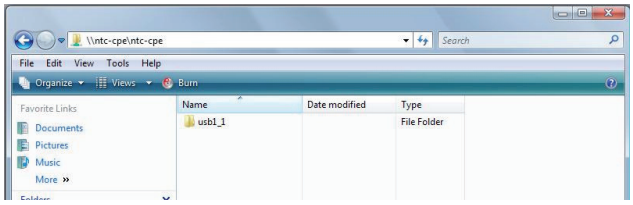
4. Click the + button to add this server to the list of Favourites and then click Connect




5. Select the Guest radio button and then click Connect


# For Windows Vista

1. Open a web-browser (such as Internet Explorer, Firefox or Safari)
2. Type in the address "\\NetbiosName\DirectoryName\" (eg \\3G15Wn\USB-Storage)




Note: There is no username and password required to access the USB drive. Any network user will be able to read/write the folder/files in the USB drive.

# Legal & Regulatory Information



## Customer Information

ACA (Australian Communications Authority) requires you to be aware of the following information and warnings:

(1) This unit shall be connected to the Telecommunication Network through a line cord which meets the requirements of the ACA TS008 Standard.

(2) This equipment has been tested and found to comply with the Standards for C-Tick and or A-Tick as set by the ACA . These standards are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio noise and, if not installed and used in accordance with the instructions detailed within this manual, may cause interference to radio communications. However, there is no guarantee that interference will not occur with the installation of this product in your home or office. If this equipment does cause some degree of interference to radio or television reception, which can be determined by turning the equipment off and on, we encourage the user to try to correct the interference by one or more of the following measures:

- Change the direction or relocate the receiving antenna.
- Increase the separation between this equipment and the receiver.
- Connect the equipment to an alternate power outlet on a different power circuit from that to which the receiver/TV is connected.
- Consult an experienced radio/TV technician for help.

(3) The power supply that is provided with this unit is only intended for use with this product. Do not use this power supply with any other product or do not use any other power supply that is not approved for use with this product by NetComm. Failure to do so may cause damage to this product, fire or result in personal injury.

## Product Warranty

The warranty is granted on the following conditions:

1. This warranty extends to the original purchaser (you) and is not transferable;
2. This warranty shall not apply to software programs, batteries, power supplies, cables or other accessories supplied in or with the product;
3. The customer complies with all of the terms of any relevant agreement with NetComm and any other reasonable requirements of NetComm including producing such evidence of purchase as NetComm may require;
4. The cost of transporting product to and from NetComm's nominated premises is your responsibility; and,
5. NetComm does not have any liability or responsibility under this warranty where any cost, loss, injury or damage of any kind, whether direct, indirect, consequential, incidental or otherwise arises out of events beyond NetComm's reasonable control. This includes but is not limited to: acts of God, war, riot, embargoes, acts of civil or military authorities, fire, floods, electricity outages, lightning, power surges, or shortages of materials or labour.
6. The customer is responsible for the security of their computer and network at all times. Security features may be disabled within the factory default settings. NetComm recommends that you enable these features to enhance your security.

### GNU General Public License

This product includes software code that is subject to the GNU General Public License ("GPL") or GNU Lesser General Public License ("LGPL"). This code is subject to the copyrights of one or more authors and is distributed without any warranty. A copy of this software can be obtained by contacting NetComm Limited on +61 2 9424 2059.

**The warranty is automatically voided if:**

1. You, or someone else, use the product, or attempts to use it, other than as specified by NetComm;
2. The fault or defect in your product is the result of a voltage surge subjected to the product either by the way of power supply or communication line, whether caused by thunderstorm activity or any other cause(s);
3. The fault is the result of accidental damage or damage in transit, including but not limited to liquid spillage;
4. Your product has been used for any purposes other than that for which it is sold, or in any way other than in strict accordance with the user manual supplied;
5. Your product has been repaired or modified or attempted to be repaired or modified, other than by a qualified person at a service centre authorised by NetComm; and,
6. The serial number has been defaced or altered in any way or if the serial number plate has been removed.

# Limitations of Warranty

The Trade Practices Act 1974 and corresponding State and Territory Fair Trading Acts or legalisation of another Government ("the relevant acts") in certain circumstances imply mandatory conditions and warranties which cannot be excluded. This warranty is in addition to and not in replacement for such conditions and warranties.

To the extent permitted by the Relevant Acts, in relation to your product and any other materials provided with the product ("the Goods") the liability of NetComm under the Relevant Acts is limited at the option of NetComm to:

- Replacement of the Goods; or
- Repair of the Goods; or
- Payment of the cost of replacing the Goods; or
- Payment of the cost of having the Goods repaired.

All NetComm ACN 002 490 486 products have a standard 12 months warranty from date of purchase. However some products have an extended warranty option (refer to packaging). To be eligible for the extended warranty you must supply the requested warranty information to NetComm within 30 days of the original purchase by registering on-line via the NetComm web site at **www.netcomm.com.au**

NetComm

## Product Warranty

NetComm products have a standard 12 months warranty from date of purchase. However some products have an extended warranty option, via registering your product online at the NetComm website **www.netcomm.com.au**.

## Technical Support

If you have any technical difficulties with your product, please refer to the support section of our website.

# www.netcomm.com.au/support

Note: NetComm Technical Support for this product only covers the basic installation and features outlined in the Quick Start Guide. For further information regarding the advanced features of this product, please refer to the configuring sections in the User Guide or contact a Network Specialist.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